

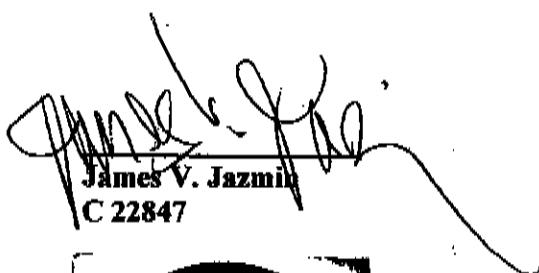
**2005 1<sup>st</sup> QUARTER GROUNDWATER  
MONITORING REPORT**

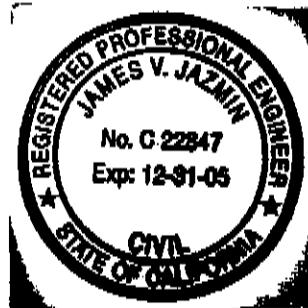
**FOR**

**FORMER ANGELES CHEMICAL COMPANY FACILITY  
8915 SORENSEN AVENUE  
SANTA FE SPRINGS, CALIFORNIA**

**Prepared by:  
Clean Soil, Inc.  
7101 Western Ave.  
Buena Park, CA 90620**

**May 25, 2005**

  
**James V. Jazmin**  
**C 22847**



**ANCHEM0748**

## **TABLE OF CONTENTS**

<b>1.0) INTRODUCTION</b>	<b>1</b>
<b>2.0) SITE DESCRIPTION</b>	<b>1</b>
<b>3.0) PREVIOUS SITE ASSESSMENT WORK</b>	<b>1</b>
<b>4.0) REGIONAL GEOLOGY/HYDROGEOLOGY</b>	<b>3</b>
<b>5.0) SITE GEOLOGY/HYDROGEOLOGY</b>	<b>3</b>
<b>6.0) GROUNDWATER MONITORING PROTOCOL</b>	<b>5</b>
<b>6.1) Well Purging and Measurement of Field Parameters</b>	<b>6</b>
<b>6.2) Well Sampling</b>	<b>7</b>
<b>6.3) Sample Handling</b>	<b>8</b>
<b>6.4) Waste Management</b>	<b>8</b>
<b>7.0) FREE PRODUCT REMOVAL</b>	<b>9</b>
<b>8.0) GROUNDWATER SAMPLE RESULTS</b>	<b>9</b>
<b>9.0) CONCLUSIONS</b>	<b>13</b>
<b>10.0) RECOMMENDATIONS</b>	<b>13</b>

## **FIGURES**

- Figure 1** Site Location Map  
**Figure 2** Well Location Map  
**Figure 3** First Water Potentiometric Gradient Map  
**Figure 4** A1 Zone Potentiometric Gradient Map  
**Figure 5** First Water Groundwater Elevations: Central & Northern Wells  
**Figure 6** First Water Groundwater Elevations: Southern Wells  
**Figure 7** Upper A1 Groundwater Elevations  
**Figure 8** Lower A1 Groundwater Elevations  
**Figure 9** TPH-g and BTEX Concentrations in First Water  
**Figure 10** TPH-g and BTEX Concentrations in Upper and Lower A1 Zones  
**Figure 11** Chlorinated VOCs & 1,4-Dioxane Concentrations in First Water  
**Figure 12** Chlorinated VOC & 1,4-Dioxane Concentrations in Upper and Lower A1 Zones  
**Figure 13** Acetone, MEK, and MIBK in First Water  
**Figure 14** Acetone, MEK, and MIBK in Upper and Lower A1 Zones

## **TABLE OF CONTENTS (cont.)**

### **TABLES**

- Table 1      Well & Screen Elevations and Groundwater Depths & Elevations**
- Table 2      TPH-gas and VOCs from Free Product**
- Table 3      Conductivity, pH and TPH-gas Groundwater Results**
- Table 4      Detected VOCs from Groundwater Results**
- Table 5      Detected VOCs from Diffusion Bag Groundwater Samples**
- Table 6      Biodegradation Indicator Results**

### **APPENDICES**

- Appendix A    Field Sampling Logs**
- Appendix B    Contaminant Graphs**
- Appendix C    Groundwater Laboratory Analysis Results**

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 1**

**1.0) INTRODUCTION**

Clean Soil, Inc. (CSI) was contracted by Greve Financial Services ((310) 753-5770) to perform quarterly groundwater monitoring at the former Angeles Chemical Company (ACC), Inc. facility located at 8915 Sorensen Avenue, Santa Fe Springs, California (See Figure 1, Site Location Map). The quarterly groundwater monitoring was requested by the Department of Toxics Substance Control (DTSC) correspondence dated September 18, 2001. This report presents the results of the 2005 1<sup>st</sup> quarter monitoring episode performed on March 11, 2005.

**2.0) SITE DESCRIPTION**

The site is approximately 1.8 acres in size and completely fenced. The site is bound by Sorensen Avenue on the east, Air Liquide Corporation to the north and northwest, Plastall Metals Corporation to the north, and a Southern Pacific Railroad easement and McKesson Chemical Company to the south.

The ACC has operated as a chemical repackaging facility from 1976 to 2000. A total of thirty-four (34) underground storage tanks (USTs) existed beneath the site. Two (2) USTs, one gasoline and one diesel, and sixteen (16) chemical USTs were excavated and removed under the oversight of the Santa Fe Springs Fire Department. All 16 remaining chemical USTs were decommissioned in place and slurry filled.

**3.0) PREVIOUS SITE ASSESSMENT WORK**

In January 1990, SCS Engineers, Inc. (SCS) conducted a site investigation and advanced eight borings from 5' below grade surface (bgs) to 50' bgs. Soil samples collected and analyzed identified benzene, 1,1-Dichloroethane (1,1-DCA), 1,1-Dichloroethene (1,1-DCE), MEK, methyl isobutyl ketone (MIBK), toluene, 1,1,1-Trichloroethane (1,1,1-TCA), Tetrachloroethylene (PCE), and xylenes at detectable concentrations.

In June 1990, SCS performed an additional site investigation at the site by advancing six additional borings advanced from 20.5' bgs to 60' bgs. A monitoring well (MW-1) was also installed. Soil sample analysis identified detectable concentrations of the above mentioned VOCs in addition to acetone and methylene chloride. Dissolved benzene, 1,1-DCA, 1,1-DCE, PCE, Trichloroethylene (TCE), and trans-1,2-dichloroethene were detected in MW-1 above maximum contaminant levels.

Between 1993 and 1994, SCS performed further testing at the site. Soil samples were collected from nine borings. Five borings were converted to groundwater monitoring wells MW-2, MW-3, MW-4, MW-6, and MW-7. The predominant compounds detected in soil and groundwater were acetone, MEK, MIBK, chlorinated VOCs, and BTEX.

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 2**

In 1996 and 1999, SCS performed separate soil vapor extraction pilot tests using several treatment technologies on extraction well E-1 screened from 7' bgs and 22' bgs. Laboratory analysis identified maximum soil vapor gas concentrations as 1,1,1-TCA (30,300 ppmV) with detectable concentrations of 1,1-DCE, TCE, methylene chloride, toluene, PCE and xylenes. The radius of influence was measured between 35 and 80 feet.

In November 1997, SCS performed a soil vapor survey at the site. Soil vapor samples were collected at twenty-three locations at 5' bgs. In addition, soil vapor samples were collected at 15' bgs in five of the twelve sampling points. The soil vapor survey identified maximum VOC concentrations near the railroad tracks located on the northern portion of the site.

Blakely Environmental Investigations, Inc. (BEII) performed a soil vapor gas survey at the site from November 27 to December 1, 2000. A total of 36 soil vapor sample points, labeled SV1 through SV36, were selected by BEII and approved by the DTSC for analysis. Two discrete soil vapor samples were collected from each soil vapor sample point, one at 8' bgs and one at 20' bgs. SV1 was an exception since the first soil vapor sample was collected at 10' bgs instead of 8' bgs. Based on the soil vapor sample results, BEII identified relatively low level concentrations of VOCs in the silty clay soils at 8' bgs. However, the concentrations of VOCs are significantly higher in the sandy soils at 20' bgs. Results were submitted to the DTSC by BEII in a Report of Findings dated January 10, 2001 with laboratory reports (BEII Report of Findings dated January 10, 2001).

BEII performed an additional soil gas survey on the ACC site from January 14 to January 17, 2002. The purpose of the soil gas survey was to determine the lateral extent of VOC soil vapors in the vadose zone along the eastern, northern, and southern property line of the site. In addition, BEII performed a SGS on June 13, 2002 on the Air Liquide property to determine the lateral extent of VOC soil vapors in the vadose zone north of the ACC facility. Based on the soil gas survey results, BEII identified relatively low level concentrations of VOCs in the silty clay soils at 5' bgs, 7'bgs, 8' bgs, 10' bgs, and 12' bgs. However, the concentrations of VOCs are significantly higher in the sandy soils at 20' bgs, which are more permeable and conducive to soil vapor migration. Furthermore, VOC soil gas concentrations were higher along the southern property line than along the east and north property line. Results were submitted by BEII to the DTSC in a Report of Findings dated October 15, 2002 with laboratory reports.

BEII advanced two soil borings (BSB-1 and BSB-2) and installed two groundwater monitoring wells (MW-8 and MW-9) on the ACC site from June 5 to June 7, 2002. The purpose of the drilling was to help define the lateral and vertical extent of impacted soil along the eastern ACC property line and to help determine the extent of impacted groundwater. Soil borings BSB-1 and BSB-2 were advanced to 50' bgs and 30' bgs, respectively. Monitoring wells MW-8 and MW-9 were installed to 40.5' bgs and 45.5' bgs, respectively. Soil sample results identified elevated VOC concentrations from

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 3**

monitoring well MW-8 at depth between 29' and 40' bgs. Results were submitted by BEII to the DTSC in a Report of Findings dated October 15, 2002 with laboratory reports.

BEII advanced eight soil borings (BSB-3 through BSB-10) and eleven cone penetrometer testing locations (CPT-1 though CPT-11) in August 2002 to help determine the extent of impacted soil and subsurface geology. In November and December of 2002, BEII advanced seven additional borings (BSB-11 through BSB-17), fifteen additional cone penetrometer locations (CPT-12 through CPT-26) and installed twelve additional monitoring wells (MW-10 through MW-21) to help further define the extent of VOC impacted soil/groundwater and the subsurface geology. Monitoring well MW-1 was also abandoned. In late June of 2003, BEII installed five additional monitoring wells (MW-22 through MW-26) to help define the extent of VOC impacted soil and groundwater. Monitoring wells MW-2, MW-3, and MW-7 were abandoned. Laboratory results were submitted by BEII to the DTSC. A Summary Site Characterization Report dated February 2004 was submitted by Shaw Environmental & Infrastructure, Inc. (Shaw) to the DTSC and included interpretations based on the above mentioned borings, CPT locations and monitoring wells. See Figure 2 for Site Layout Map.

#### **4.0) REGIONAL GEOLOGY/HYDROGEOLOGY**

The site is located near the northern boundary of the Santa Fe Springs Plain within the Los Angeles Coastal Plain at an elevation of approximately 150 feet above mean sea level. Surficial sediments consist of fluvial deposits composed of inter-bedded gravel, sand, silt, and clay. Available data from California Water Resources Bulletin No. 104 (June 1961) indicate that the surficial sediments may be Holocene and/or part of the upper Pleistocene Lakewood Formation, which ranges from 40 to 50 feet thick beneath the site. The Lakewood Formation has lateral lithologic changes with discontinuous permeable zones that vary in particle size. Stratified deposits of sand, silty sand, silt, and fine gravel comprising the upper portion of the lower Pleistocene San Pedro Formation underlies the Lakewood Formation.

The site lies within the Central Basin Pressure area, a division of the Central Ground Water Basin, which extends over most of the Coastal Plain. The shallow (perched) groundwater occurs within the Lakewood Formation. The deeper groundwater occurs in the Hollydale aquifer, which is the uppermost regional aquifer in the Pleistocene San Pedro Formation. The major water producing aquifers in the region are the Lynwood aquifer located approximately 200-feet bgs, the Silverado aquifer located at approximately 275-feet bgs, and the Sunnyside aquifer located at approximately 600-feet bgs.

#### **5.0) SITE GEOLOGY/HYDROGEOLOGY**

Based on the borings and CPT pushes, Shaw identified six distinct

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 4**

hydrostratigraphic units horizons beneath the ACC site. Uppermost is an "overburden" unit comprising a wide range of materials from fill to silty sands to clayey silts that is designated as "unit A". Next is a well-defined clean sand (sometimes with gravel) horizon designated as "unit B". Following is a fine-grained predominantly silt zone designated as "unit C1" which is underlain by a coarser silty sand zone named "unit D". Next is the finest-grained unit observed, "unit C2" which is predominantly a clayey silt that can be finer (clay) at the top, and coarser (sandy silt) with depth. Finally, "unit E" is a clean coarse sand (similar to unit B) that is considered the top of the regional aquifer system.

A perched water zone, which is currently dry, was identified within unit B. The regional aquifer zone from 50' to 80' bgs (referred as the A1 zone), is identified within unit E. A zone of saturation (referred as the "first water" zone) exists between the A1 and the perched water zone.

For this report, monitoring wells MW-13, MW-14, MW-15, MW-17, MW-20 and MW-21 will be noted as upper A1 zone monitoring wells and MW-23, MW-24 and MW-25 as lower A1 zone monitoring wells. Monitoring wells MW-6, MW-8, MW-9, MW-10, MW-11, MW-12, MW-16, MW-18, MW-19, MW-22, and MW-26 will be noted as the first water zone monitoring wells. Monitoring well MW-4 contained residual water within the casing sump at 26.43' bgs and a depth to bottom of 26.60' bgs. MW-4 will be noted as a first water zone well.

The groundwater gradient flowed historically to the southwest as identified by SCS. In March 2005, the first water was identified at depths between 29.3' bgs to 37.82' bgs beneath the site. The potentiometric groundwater flow direction of the first water zone is N 05°E at the western side of the property with a hydraulic gradient of 0.04 ft/ft. On the eastern side of the property the flow direction is N45°E with a hydraulic gradient of 0.04 ft/ft to 0.04 ft/ft (See Figure 3). Groundwater in the A1 zone was identified at depths between 45.33' bgs to 47.98' bgs beneath the site. The potentiometric groundwater flow in the A1 zone is to S 65°W with a hydraulic gradient of 0.008 ft/ft in the southwest and N 55°E with a hydraulic gradient of 0.006 ft/ft in the northeast corner of the property (See Figure 4). Depths to groundwater and their respective elevations are presented in Table 1.

Hydrographs are included as Figures 5 through 8 in this report. Groundwater elevations of both the first water and A1 zone tend to be higher in June and lower in December, which indicates a seasonal recharge in both hydrologic zones. Groundwater levels have generally declined since June 2003, due to limited rainfall, which supplies seasonal recharge. The most recent groundwater elevations measured in March 2005 coincides with recent seasonal changes with an increase in water elevations in all wells.

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 5**

**6.0) GROUNDWATER MONITORING PROTOCOL**

The purpose of the proposed groundwater monitoring was to provide data regarding the piezometric surface, water quality, and the presence of free product (FP), if any on a quarterly basis to the DTSC. Groundwater monitoring consisted of such activities as water level measurement, well sounding for detection of FP, collection of groundwater samples, field analysis, laboratory analysis, and reporting. The proposed work was performed as follows:

The depth to groundwater was measured in each well using a decontaminated water level indicator capable of measuring to with 1/100th of a foot. Prior to and following collection of measurements from each well, the portions of the water level indicator entering groundwater were decontaminated using a 3-stage decontamination procedure consisting of a potable wash with water containing Liquinox soap followed by a double purified water rinse. The depth to water was measured in all monitoring wells before any of the wells were purged. Wells were measured in the order of least contaminated to the most contaminated based on past analysis. For the ACC wells, the following order of wells was followed: MW-23, MW-24, MW-25, MW-20, MW-17, MW-13, MW-14, MW-9, MW-15, MW-22, MW-12, MW-26, MW-11, MW-4, MW-16, MW-6, MW-8, MW-10, MW-19, MW-18 and MW-21.

The well box and casing were opened carefully to preclude debris or dirt from falling into the open casing. Once the well cap was removed, the water level indicator was lowered into the well until a consistent tone was registered. Several soundings were repeated to verify the measured depth to groundwater. The depth of groundwater was measured from a reference point marked on the lip of each well casing. A licensed surveyor has surveyed the elevation of each reference point. The result was recorded on the field sampling log for each well. Other relevant information such as physical condition of the well, presence of hydrocarbon odors, etc. was also recorded as appropriate on the field sampling log.

The well sounder used for this project was equipped to measure free product (FP) layers thicker than 0.1 inches. FP was indicated as light non-aqueous phase liquid (LNAPL) or dense non-aqueous phase liquid (DNAPL).

Groundwater purging was conducted immediately following the sounding of all monitoring wells. Groundwater samples were analyzed for the following constituents (new wells for TPH-gas and VOCs only):

- Volatile organic compounds (VOCs) using EPA Method 8260B to include all Tentatively Identified Compounds (TICs).
- Total Petroleum Hydrocarbons as gasoline (TPH-gas) using EPA Method 8015 modified.
- Total dissolved solids (TDS) using EPA Method 160.1.

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 6**

- Nitrates, chloride, sulfate, sulfide, ferrous iron, and manganese using EPA Methods 352.1, 325.3, 375.4, 376.1, 7380, and 7460, respectively.
- Alkalinity, carbonates, and bicarbonates using EPA Methods 310.1 and Standard Method 4500.
- Total organic carbon (TOC) and dissolved organic carbon (DOC) using EPA Method 415.1.
- 1,4-Dioxane using EPA method 8270.
- Ethylene using GC/FID.

**6.1) Well Purging and Measurement of Field Parameters**

Wells were purged in the above mentioned order (see Section 5.0) to minimize the potential for cross contamination. One equipment blank was collected daily to assess whether cross contamination has occurred. The wells were purged by Blaine Tech Services, Inc (Blaine) and sampled by CSI from December 15 to December 16, 2004. Snap Samplers™ were removed on December 15, 2004. The purge protocol was presented in the Field Sampling Plan as Appendix A in the Groundwater Monitoring Work Plan dated October 23, 2001 and submitted to the DTSC.

Prior to purging, casing volumes was calculated based on total well depth, standing water level, and casing diameter. One casing volume was calculated as:

$$V = \pi(d/2)^2 h \times 7.48$$

where:

V is the volume of one well casing of water (in gallons, 1 ft<sup>3</sup> = 7.48 gallon);  
d is the inner diameter of the well casing (in feet); and  
h is the total depth of water in the well - the depth to water level (in feet).

A minimum of three casing volumes of water was purged from each well. Water was collected into a measured bucket to record the purge volume. All purged groundwater was containerized in 55-gallon hazardous waste drum for disposal at a later date.

The pump was initially set at approximately 2-feet below the measured groundwater level in each well. The pump was lowered slowly as the groundwater receded. This ensured that fresh formation water was sampled from each well. Great care was used when deploying the pump to avoid touching the bottom of the well and when initiating the pump to minimize sediment disturbances within the well from purging. A low pump rate of 1 gallon per

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 7**

minute (gpm) or less was used to prevent dewatering. Monitoring wells MW-8, MW-9 and MW-22 dewatered during this sampling episode.

After each well casing volume was purged; water temperature, pH, specific conductance (EC), and turbidity were measured using field test meters and the measurements were recorded on Well Monitoring Data Sheets (See Appendix A). Samples were collected after these parameters have stabilized; indicating that representative formation water has entered the well. The temperature, pH, and specific conductance should not vary by more than 10 percent from reading to reading. Turbidity should be less than 5 NTUs, however, the purging process stirred up silty material in each well which made the turbidity measurements of 5 NTUs unattainable. Groundwater samples were collected after water levels recharged to 80 percent of the static water column. Notations of water quality including color, clarity, odors, sediment, etc. were also noted in the data sheets.

All field meters were calibrated according to manufacturers' guidelines and specifications before and after each day of field use. Field meter probes were decontaminated before and after use at each well. The pH, conductivity, and temperature were measured with a Myron-L Ultra Meter and turbidity was measured with a HF Scientific DRT-15C meter. The calibration standards used for pH were 4 and 7 with expiration dates of April 2005. Conductivity was calibrated to a 3900  $\mu\text{s}$  standard with an expiration date of April 2005. A 0.02 NTU standard was used to calibrate the turbidity with an expiration date of April 2005.

#### **6.2) Well Sampling**

Groundwater samples were collected using two methods: disposable bailers and Snap Samplers<sup>TM</sup>. Monitoring wells Mw-8, MW-9, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17 MW-20, MW-22 and MW-26 were sampled by lowering a separate disposable bailer into each well. Groundwater was transferred from the bailer directly into the appropriate sample containers with preservative, if required, chilled, and processed for shipment to the laboratory. When transferring samples, care was taken not to touch the bailer-emptying device to the sample containers. Snap Samplers were used to collect samples from MW-23, MW-24 and MW-25. Water samples were transported to Southland Technical Services, Inc., a certified laboratory by the California Department of Health Services (Cert. #1986), to perform the requested analysis.

Groundwater samples were collected in the following order: MW-20, MW-24, MW-15, MW-17, MW-25, MW-13, MW-12, MW-23, MW-14, MW-16, MW-22, MW-9, MW-26, MW-11 and MW-8, Monitoring wells MW-4 and MW-6 had insufficient water for sampling.

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 8**

The Snap Sampler is a groundwater sampling device that employs a double-opening 40 ml VOA vial. The vial seals under the water surface using a remote trigger. The trigger releases an internal, PFA Teflon-coated, stainless steel spring that seals PTFE or PFA Teflon end caps onto the bottle. The end caps are designed to seal the water sample within the VOA vial with no headspace vapor. Once the closed vial is retrieved from the well, the bottle is prepared with standard septa screw caps and a label. All critical actions take place submerged in the well, away from weather, surface contamination and off-gassing loss. The vial can be used directly in standard laboratory autosampler equipment. The sample is never exposed to the open air from the well to the gas chromatograph. Analytical results for the Snap Samplers are included in Appendix B.

Monitoring wells MW-10, MW-18, MW-19 and MW-21 identified FP as LNAPL at a thickness of 0.01-feet, 0.13-feet, 0.35-feet and 0.01-feet, respectively.

Vials for VOC and TPH analysis were filled first to minimize aeration of groundwater collected in the bailer. The laboratory provided vials containing sufficient HCl preservative to lower the pH to less than 2. The vials were filled directly from the bottom-emptying device. The vial was capped with a cap containing a Teflon septum. A blind duplicate sample for the laboratory was labeled as "MW-1" and was collected from monitoring well MW-11. An equipment blank was collected per day; EB-1 was collected after purging MW-8. All vials were inverted and tapped to check for bubbles to insure zero headspace.

New nitrile gloves were worn during by sampling personnel for each well to prevent cross contamination of the samples. A solvent free label was affixed to each sample container/vial denoting the well identification, date and time of sampling, and an identifying code to distinguish each individual bottle.

**6.3) Sample Handling**

VOA vials, including laboratory trip blanks, were placed inside of one new Ziplock bag per well and stored in a cooler chilled to approximately 4°C with bagged ice. Water samples were logged on the chain-of-custody forms immediately following sampling of each well to insure proper tracking through analysis to the laboratory.

**6.4) Waste Management**

FP, purged groundwater, and decontamination water were stored in sealed 55-gallon drums for a period not to exceed 90 days. Stored wastes will be profiled for hazardous constituents and characterized as Non-Hazardous,

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 9**

California Hazardous, or RCRA Hazardous, as appropriate. Any transportation of waste will be under appropriate manifest.

**7.0) FREE PRODUCT**

Free product (FP) was identified as LNAPL in monitoring wells MW-10, MW-18, MW-19 and MW-21 at a thickness of 0.01-feet, 0.13-feet, 0.35-feet and 0.01-feet, respectively. Each well that contains or has contained FP is tabulated as follows with the total amount of FP removed since each well was installed.

<b>Well ID</b>	<b>Total FP Removed (gallons)</b>
MW-4	0.76
MW-6	2
MW-8	12.81
MW-10	5.29
MW-16	1.15
MW-18	52.79
MW-19	7.97
MW-21	0.41

Laboratory analysis of FP was performed in October 2001 from MW-6, in June 2002 from MW-6 and MW-8, in December 2003 from MW-16 and MW-19, in March 2004 from MW-10, MW-18 and MW-19, and in September 2004 from MW-8, MW-10, and MW-19. Laboratory analysis results are presented in Table 2. Based on the results, the FP contained in MW-6 and MW-8 appears to be different from the FP contained in MW-10, MW-16 and MW-19 when comparing TPH-gas concentrations. Furthermore, the VOC analysis results indicate that FP from MW-10 and MW-18 are similar compared to the FP from MW-19.

**8.0) GROUNDWATER SAMPLE RESULTS**

Groundwater samples collected from the first water zone monitoring wells MW-8, MW-9, MW-11, MW-12, MW-16, MW-22 and MW-26 in March 2005 contained dissolved TPH-gas at 41,100 µg/L, 2,120 µg/L, 47,600 µg/L, 1,890 µg/L, 59,400 µg/L, 3,440 µg/L, and 75,600 µg/L, respectively. Monitoring wells MW-8 and MW-16 did not have product present and, therefore, groundwater samples were able to be taken for the first time since June 2002 and September 2003, respectively. See Table 3 and Figure 9 for dissolved TPH-gas concentrations. Graphs of dissolved contaminant concentrations over time are provided in Appendix B. Note that the previously high dissolved TPH-gas concentrations from MW-10, MW-18 and MW-19 represent the LNAPL that is now present in those first water wells.

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 10**

Groundwater samples collected from the upper A1 zone monitoring wells MW-13, MW-14, MW-15, MW-17 and MW-20 in March 2005 contained TPH-gas ranging from 3,080 µg/L in MW-15 to 145 µg/L in MW-17. In all upper A1 zone wells the levels increased from the previous sampling event. The lower A1 zone monitoring wells MW-23, MW-24 and MW-25 identified dissolved TPH-gas as 103 µg/L, 134 µg/L and 181 µg/L, respectively. See Table 3 and Figure 10 for dissolved TPH-gas concentrations. Generally, contaminant graphs for the A1 zone identified lower dissolved TPH-gas concentrations in most wells during the month of June.

Concentrations of dissolved BTEX in the first water zone ranged from 29,664 µg/L in MW-22 to <40.8 µg/L in MW-9 (See Table 4 and Figure 9 for dissolved BTEX concentrations). Most of the total dissolved BTEX concentrations consist of benzene and toluene. Contaminant graphs for these two components are provided in Appendix B. In general, most first water wells contained their respective maximum dissolved benzene and toluene concentrations during the 1<sup>st</sup> or 3<sup>rd</sup> quarter.

Dissolved BTEX in the upper A1 zone ranged between 77.0 µg/L in MW-15 to <4 µg/L in MW-13, MW-17 and MW-20 (See Tables 4 and 5 and Figure 10 for dissolved BTEX concentrations). Like the first water zone, the upper A1 zone contains mostly benzene and toluene as the total dissolved BTEX concentration. Contaminant graphs for these two components contained higher dissolved benzene and toluene concentrations in most wells during the month of December except for monitoring wells MW-15 and MW-21 which identified maximum concentrations in September 2004. The lower A1 zone monitoring wells MW-23, MW-24, and MW-25 identified no detectable concentrations of dissolved BTEX.

Groundwater sample results from the first water zone identified high VOC concentrations compared to the relatively low VOC concentrations in the A1 zone (See Tables 4 and 5).

Dissolved PCE was identified in the first water zone at a maximum concentration of 2,840 µg/L from MW-22. Dissolved TCE was identified at a maximum of 3,560 µg/L from MW-22 in the first water zone (See Figure 11). Dissolved contaminant graphs identified relatively consistent dissolved PCE and TCE concentrations from first water wells except for MW-26 whose concentrations fluctuated greatly. Maximum concentrations of dissolved PCE and TCE in the upper A1 zone were detected as 117 µg/L in MW-17 and 1348 µg/L in MW-13, respectively (See Figure 12). The lower A1 zone contained maximum concentrations of dissolved PCE as 74.7 µg/L in MW-24 and TCE as 101 µg/L from MW-25. Wells in the upper A1 zone exhibited a general increase in dissolved PCE and TCE, while the lower A1 zone showed decreased levels of dissolved PCE and TCE (See Appendix B).

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 11**

Dissolved concentrations of 1,1,1-TCA were identified in the first water zone at a maximum of 3,900 µg/L in MW-26 (See Figure 11). Contaminant graphs for the first water identified that in most wells with elevated dissolved 1,1,1-TCA (<100 µg/L) the maximum concentrations were detected during the month of December and most wells with low level dissolved 1,1,1-TCA the maximum concentrations were detected in June. Dissolved 1,1,1-TCA was detected in the A1 zone at <2 µg/L in all wells (See Figure 12). Graphs of dissolved 1,1,1-TCA over time in the A1 zone June 2004 as the first episode where concentrations were all below 14 µg/L. Only concentrations in MW-21 rose above that level during September 2004.

Groundwater samples were also analyzed for 1,4-Dioxane, a preservative used in 1,1,1-TCA to prolong its shelf life. However, 1,4-Dioxane is more soluble in groundwater than 1,1,1-TCA and will often lead the dissolved 1,1,1-TCA plume. First water zone monitoring wells identified dissolved 1,4-Dioxane concentrations between 2,670 µg/L and <2 µg/L. Dissolved concentrations in most wells have decreased over time (See Appendix B). A1 zone monitoring identified dissolved 1,4-Dioxane concentrations between 336 µg/L and <2 µg/L. Contaminant graphs display that dissolved 1,4-Dioxane has remained relatively stable except for MW-21, MW-15 and MW-14, which identified maximum concentrations during the 2004 third quarter.

Concentrations of dissolved chlorinated VOC daughter products were relatively elevated compared to their respective parent VOCs identified above and also showed a trend of higher dissolved concentrations in the first water zone compared to the deeper A1 zone.

1,1-DCA is a daughter product from reductive dehalogenation of 1,1,1-TCA and from carbon-carbon double bond reduction of 1,1-DCE, another daughter product. Dissolved 1,1-DCA concentrations were identified between 34,800 µg/L and 191 µg/L in the first water zone (See Figure 11). The greatest dissolved 1,1-DCA concentration was observed in MW-11. A historic maximum concentration was identified in MW-11 during December 2004 (See Appendix B). Dissolved 1,1-DCA concentrations in the upper A1 zone ranged between 693 µg/L and <1 µg/L (See Figure 12). Dissolved 1,1-DCA concentrations identified in the lower A1 zone were between 9.4 µg/L and <1 µg/L. Most wells in the A1 zone identified a slight decrease or stable levels of dissolved 1,1-DCA concentrations since the previous episode.

Dissolved 1,1-DCE, a daughter product of the dehydrohalogenation of 1,1,1-TCA and reductive dehalogenation of TCE, was identified at concentrations ranging from 8,040 µg/L to 5.7 µg/L in the first water zone (See Figure 11). The maximum dissolved 1,1-DCE concentration was observed in MW-26. Historically, dissolved concentrations of 1,1-DCE fluctuate with no observable pattern (See Appendix B). Dissolved 1,1-DCE concentrations in the upper A1 zone ranged between 945 µg/L and <1 µg/L (See Figure 12). Concentrations of detected dissolved 1,1-DCE were identified at a maximum of

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 12**

17.7 µg/L in the lower A1 zone from MW-24. Most wells in the A1 zone identified elevated dissolved 1,1-DCE concentrations in June except for MW-14, MW-15 and MW-21, which were elevated in March and September.

Cis-1,2 DCE is also a daughter product of the dehydrohalogenation of 1,1,1-TCA and reductive dehalogenation of TCE. Concentrations of dissolved cis-1,2-DCE were identified between 5,900 µg/L (in MW-26) and <5 µg/L in the first water zone (See Figure 11). Historically, dissolved concentrations of cis-1,2-DCE fluctuate with no observable pattern (See Appendix B). Dissolved cis-1,2-DCE concentrations in the upper A1 zone ranged from 7.5 µg/L to a maximum of 3,450 µg/L identified from MW-15 (See Figure 12). The lower A1 zone contained dissolved cis-1,2-DCE at a maximum of 6.5 µg/L from MW-24. Contaminant graphs from the A1 zone identified a general decrease in dissolved cis-1,2-DCE over time with the exception of MW-15 and MW-21. MW-21 identified elevated concentrations (<2,500 µg/L) in March and September 2004 and MW-15 identified elevated concentrations in March 2004.

Vinyl chloride (VC) is a by-product from the dehydrohalogenation and reductive dehalogenation of the chlorinated VOC daughter products mentioned above. Similar to the other VOCs, concentrations of dissolved VC were at lower concentrations in the deeper A1 zone than in the first water zone. Dissolved VC concentrations were identified between 1,340 µg/L (in MW-8 and MW-22) and 12.8 µg/L in the first water zone (See Figure 11). An increase in VC in the first water zone was observed over time in MW-11 (See Appendix B). Dissolved VC concentrations in the upper A1 zone ranged from 724 µg/L to <1 µg/L (See Figure 12). The maximum dissolved VC concentration was located along the southwest property line in monitoring well MW-15. Dissolved VC was identified in the lower A1 zone at a maximum of 1.8 µg/L in MW-25. The A1 zone wells identified fluctuations of dissolved VC concentrations no discernable pattern.

Dissolved methylene chloride was identified in the first water zone at 4,730 µg/L (in MW-26) to <5 µg/L (See Figure 11). Methylene chloride was <2 µg/L in the upper and lower A1 zone monitoring wells sampled (See Figure 12).

Dissolved acetone was identified in first water zone monitoring well MW-11 at 151,000 µg/L. Dissolved MEK concentrations ranged from 18,000 µg/L (in MW-11) to <12.5 µg/L in first water wells (See Figure 13). No detectable concentrations of acetone or MEK were identified above method detection limit in both the upper and lower A1 zone (See Figure 14). Historically, dissolved concentrations of acetone and MEK fluctuate with no observable pattern (See Appendix B).

Detectable concentrations of dissolved MIBK were identified between 5,500 µg/L to <12.5 µg/L in the first water wells sampled this quarter (See Figure 13). No detectable concentrations (<5 µg/L) were identified in all upper and lower A1 zone monitoring wells (See Figure 14).

**Former Angeles Chemical Co.  
2005 First Quarter  
Groundwater Monitoring Report  
Page 13**

Most groundwater samples were also analyzed for biodegradation indicators (See Table 6 for laboratory results). The combination of elevated daughter products with elevated oxygen levels (<0.5 mg/L O<sub>2</sub>) indicates that aerobic biodegradation is a dominant electron-accepting process in MW-13, MW-14, MW-17 and MW-20. Lower oxygen levels and higher nitrate levels in MW-9, MW-11 and MW-15 point to nitrate reduction as a principal electron-accepting process. Biodegradation in MW-12 appears to be manganogenic, with low levels of oxygen and nitrate, but higher levels of manganese.

All groundwater laboratory analytical reports for this quarterly groundwater monitoring episode are included as Appendix C.

**9.0) CONCLUSIONS**

Based on groundwater elevation data, CSI concludes that seasonal changes affect both the first water and A1 zones. In general, both groundwater zones observed a period of discharge during winter and recharge during summer months.

Based on the recent groundwater sample results, CSI concludes that the site is impacted by LNAPL in the first water and upper A1 zones and dissolved VOCs in both the first water and A1 zones. LNAPL was identified in three first water monitoring wells (MW-10, MW-18 and MW-19) and upper A1 zone well MW-21. Elevated dissolved phase VOCs were identified in first water monitoring wells MW-11 and MW-26. Dissolved VOC concentrations, however, were detected at higher concentrations in the first water zone compared to the A1 zone by one order of magnitude.

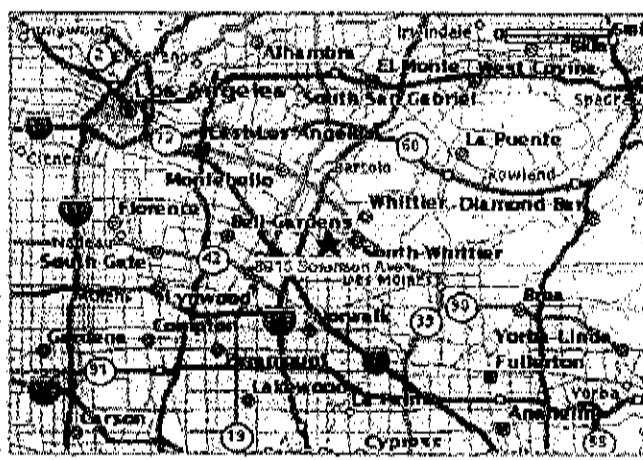
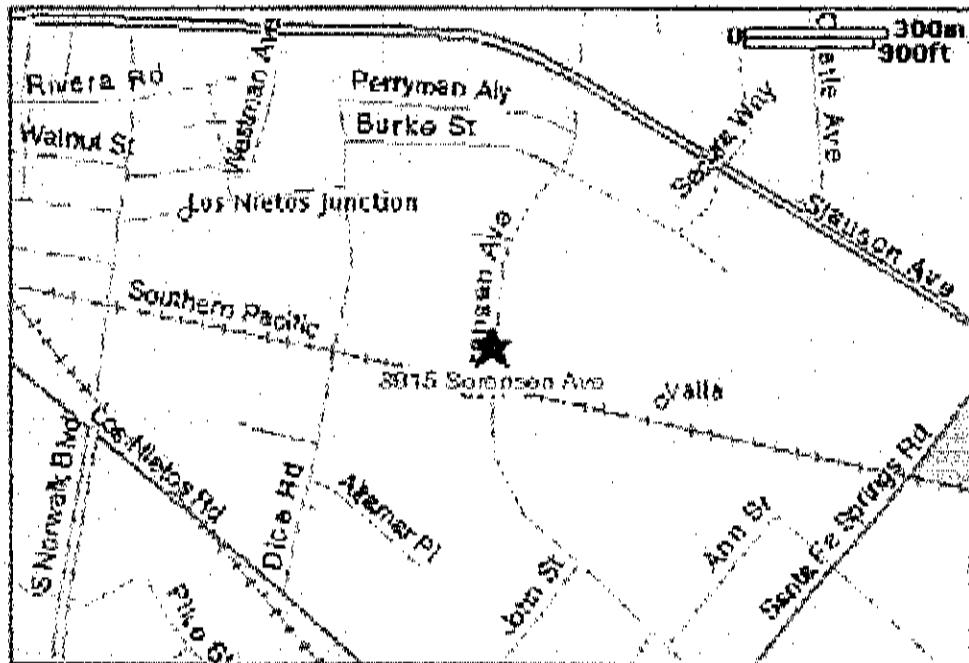
CSI also concludes that the recent groundwater sampling data provides preliminary support that the site has potential for intrinsic biodegradation. Dissolved parent VOC (PCE, TCE and 1,1,1-TCA) concentrations were identified at concentrations less than 500 µg/L. Daughter VOC constituents such as 1,1-DCA, 1,1-DCE, cis-1,2-DCE, and VC identified dissolved concentrations of up to 85,300 µg/L. The low parent VOC concentration to high daughter VOC concentration ratio is a preliminary indicator of intrinsic biodegradation.

**10.0) RECOMMENDATIONS**

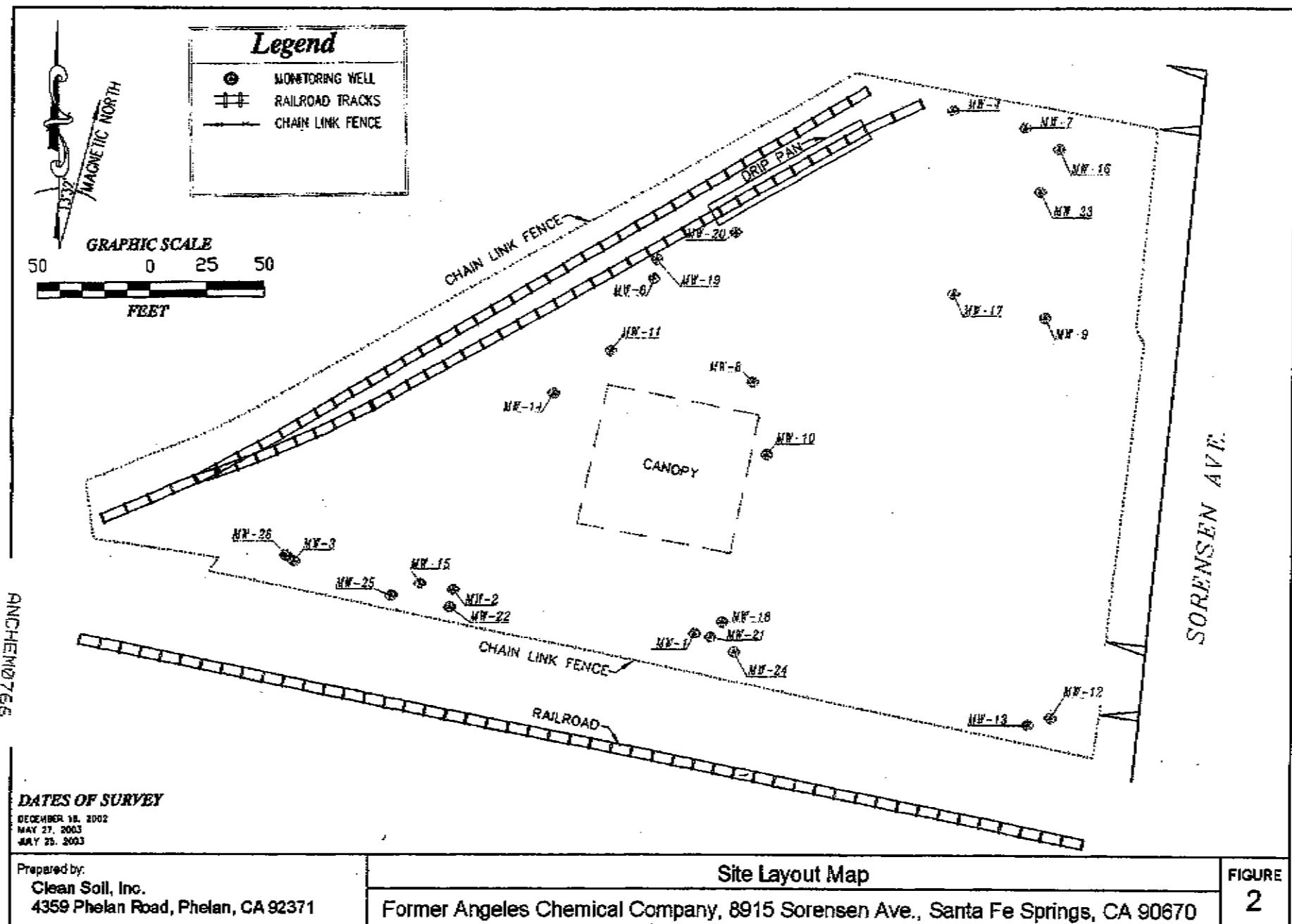
CSI recommends that quarterly groundwater monitoring for VOCs and TPH-gas is continued at the former ACC property. CSI further recommends that free product removal continue to be performed on a monthly basis to reduce its mass. It is anticipated that a soil vapor extraction system will be in place soon.

**FIGURES**

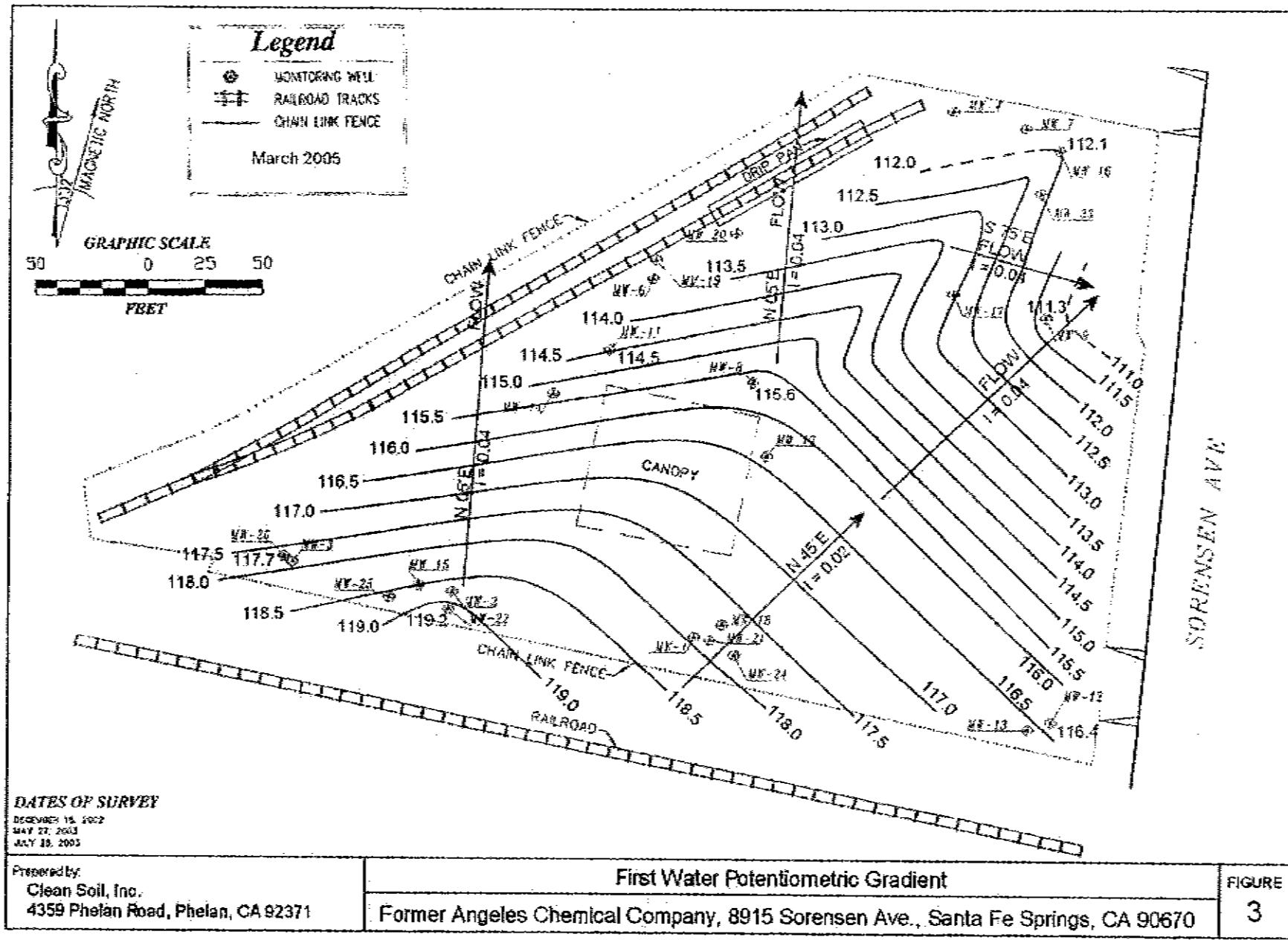
ANCHEM0764

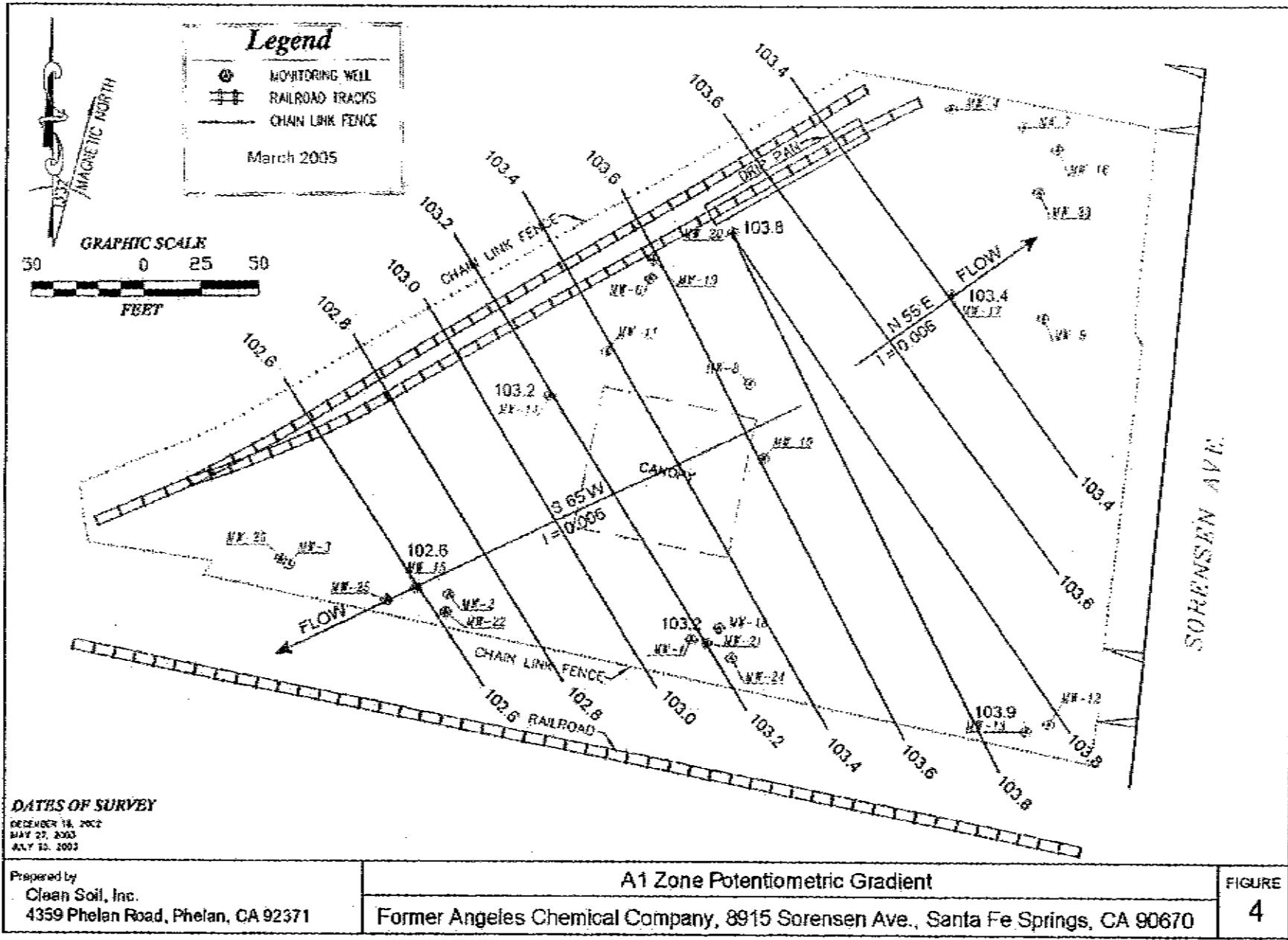


Clean Soil, Inc. 4359 Phelan Road Phelan, CA 92371	Site Location Map Former Angeles Chemical Company 8915 Sorensen Ave., Santa Fe Springs, CA 90670	FIGURE 1
--	--	-------------

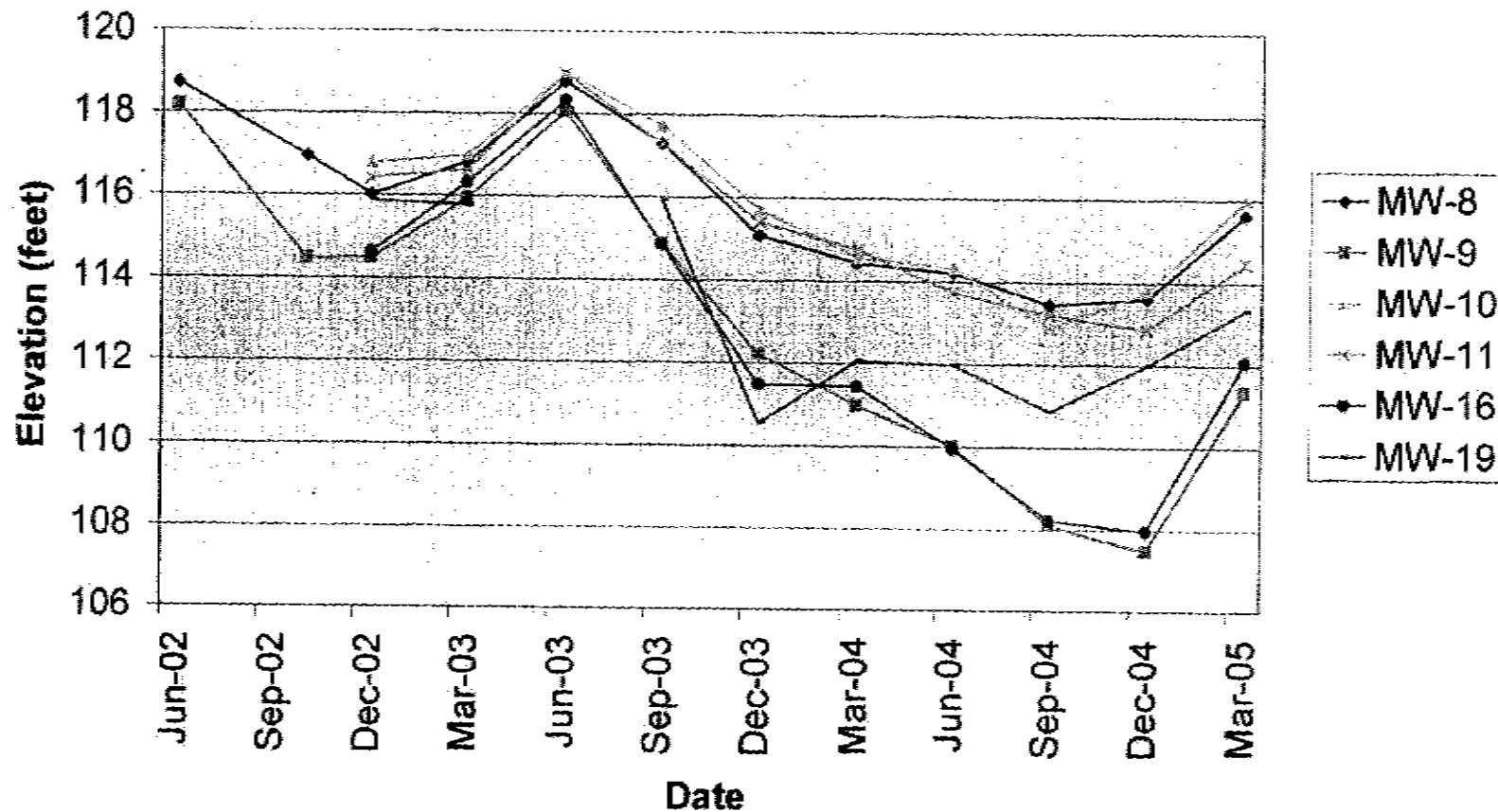


ANCHEMOTÉ

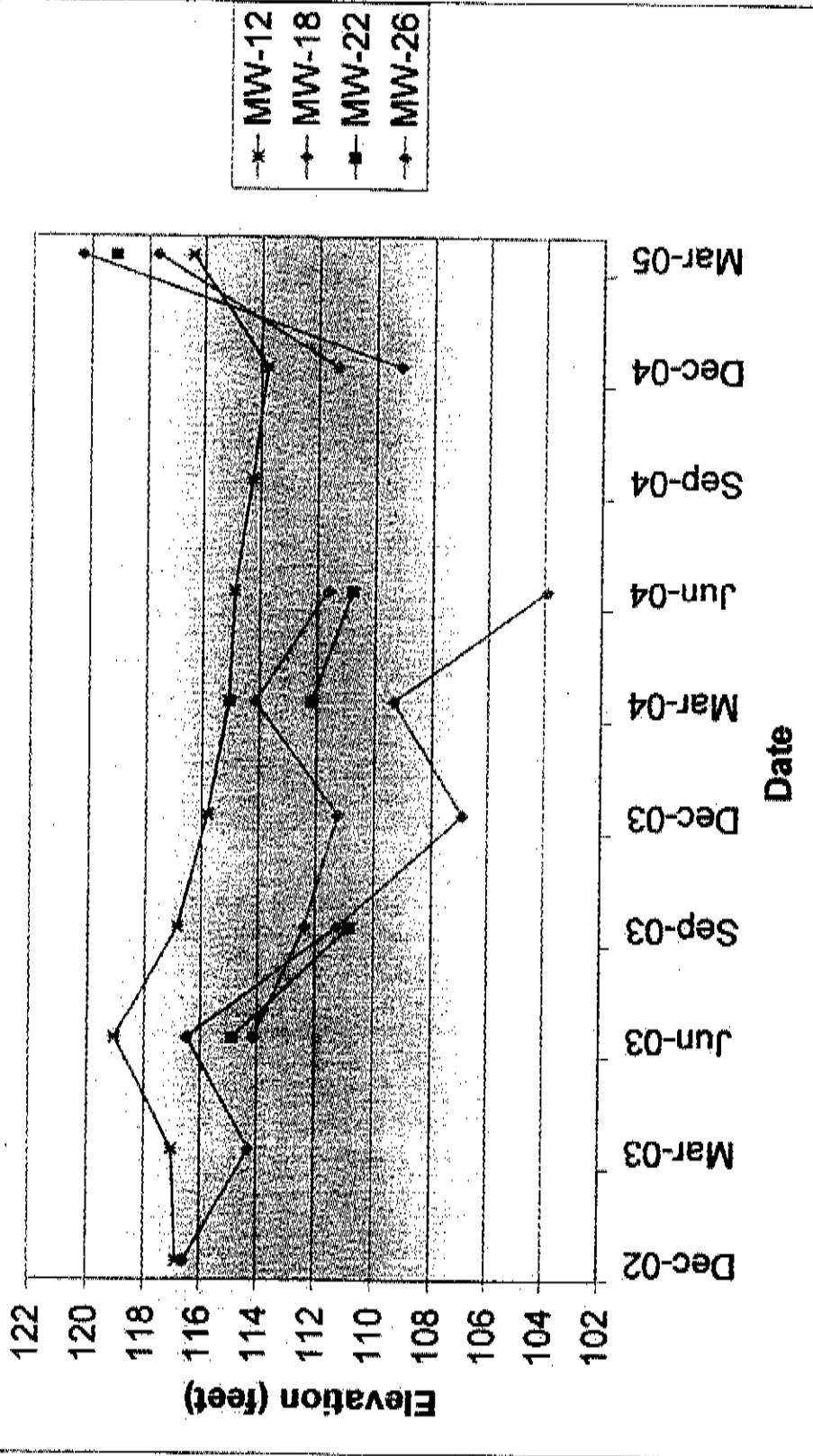




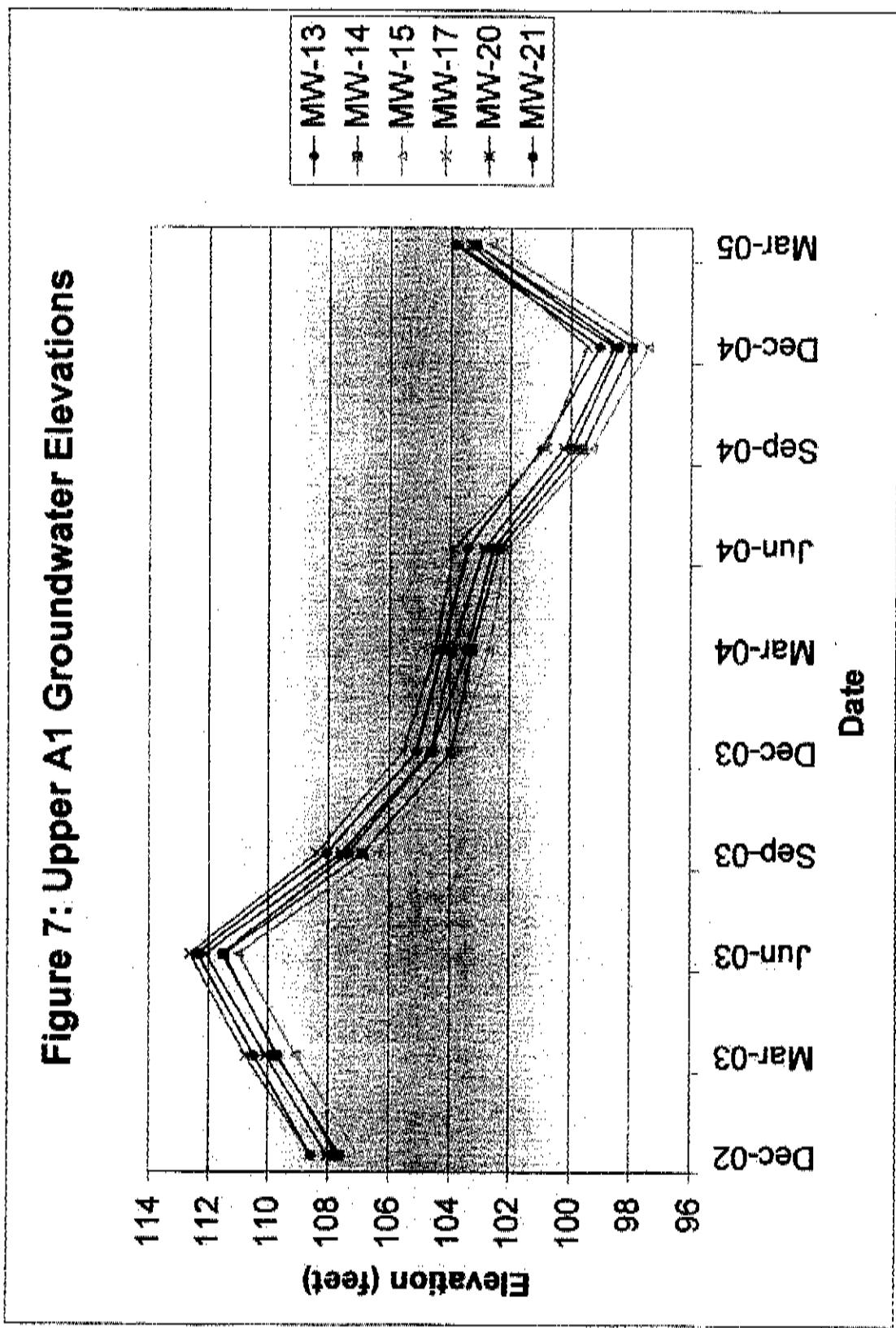
**Figure 5: First Water Groundwater Elevations from Central and Northern Wells**



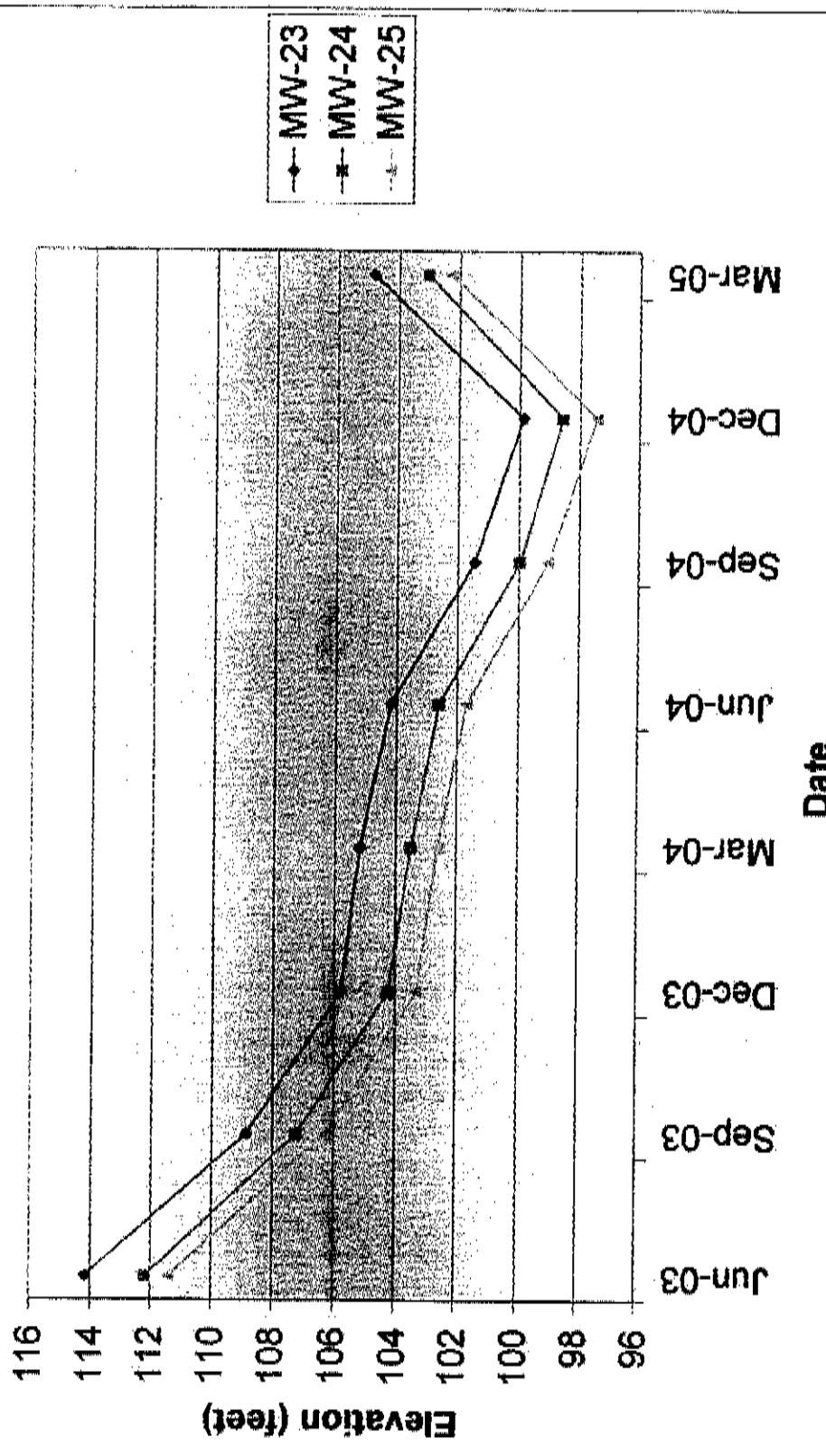
**Figure 6: First Water Groundwater Elevations from Southern Wells**



**Figure 7: Upper A1 Groundwater Elevations**



**Figure 8: Lower A1 Groundwater Elevations**



ANCHEM0772



## Legend

- MONITORING WELL
- RAILROAD TRACKS
- CHAIN LINK FENCE
- March 2005
- Free Product (thickness in feet)

## GRAPHIC SCALE



MW-28

TPH-gas	76800
Benzene	174
Ethylbenzene	3080
Toluene	16800
Xylene	9530

MW-22

TPH-gas	3440
Benzene	28.2
Ethylbenzene	<20
Toluene	22.8
Xylene	<20

FP (0.13')

TPH-gas	1890
Benzene	<2.5
Ethylbenzene	61
Toluene	<2.5
Xylene	63.2

FP (0.35')

TPH-gas	59400
Benzene	61.3
Ethylbenzene	342
Toluene	62.5
Xylene	544

TPH-gas	41100
Benzene	254
Ethylbenzene	1270
Toluene	6170
Xylene	4590

TPH-gas	2120
Benzene	28
Ethylbenzene	<2.5
Toluene	4.8
Xylene	5.5

## DATES OF SURVEY

DECEMBER 18, 2002  
MAY 27, 2003  
JULY 15, 2003

Prepared by:  
Clean Soil, Inc.  
4359 Phelan Road, Phelan, CA 92371

TPH-gas and BTEX Concentrations in First Water (µg/L)

Former Angeles Chemical Company, 8915 Sorensen Ave., Santa Fe Springs, CA 90670

FIGURE  
9

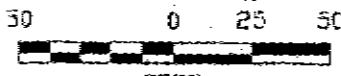
## Legend

- MONITORING WELL
- RAILROAD TRACKS
- CHAIN LINK FENCE

March 2005

Free Product (thickness in feet)

### GRAPHIC SCALE



### MW-25

TPH-gas	181
Benzene	<1
Ethylbenzene	<1
Toluene	<1
Xylene	<1

### MW-16

TPH-gas	3080
Benzene	224
Ethylbenzene	24
Toluene	42.2
Xylene	10

### MW-14

TPH-gas	173
Benzene	<1
Ethylbenzene	<1
Toluene	<1
Xylene	<1

### MW-20

TPH-gas	145
Benzene	<1
Ethylbenzene	<1
Toluene	<1
Xylene	<1

### MW-23

TPH-gas	103
Benzene	<1
Ethylbenzene	<1
Toluene	<1
Xylene	<1

### MW-17

TPH-gas	145
Benzene	<1
Ethylbenzene	<1
Toluene	<1
Xylene	<1

### MW-24

TPH-gas	134
Benzene	<1
Ethylbenzene	<1
Toluene	<1
Xylene	<1

### MW-13

TPH-gas	239
Benzene	<1
Ethylbenzene	<1
Toluene	<1
Xylene	<1

### DATES OF SURVEY

OCTOBER 14, 2002  
MAY 27, 2003  
JULY 21, 2003

Prepared by:  
Clean Soil, Inc.  
4359 Phelan Road, Phelan, CA 92371

TPH-gas and BTEX Concentrations in Upper and Lower A1 Zones ( $\mu\text{g/L}$ )

Former Angeles Chemical Company, 8915 Sorensen Ave., Santa Fe Springs, CA 90670

FIGURE  
10



## Legend

- MONITORING WELL
- RAILROAD TRACKS
- CHAIN LINK FENCE
- March 2005
- Free Product (thickness in feet)

## GRAPHIC SCALE



MW-26

PCE	2840
TCE	3560
1,1,1-TCA	3900
1,4-Dioxane	311
1,1-DCA	1670
1,1-DCE	8040
cis-1,2-DCE	5900
Vinyl Chloride	138
Methylene-Cl	4730

## DATES OF SURVEY

DECEMBER 8, 2002  
MAY 27, 2003  
JULY 25, 2003

Prepared by  
Clean Soil, Inc.  
4359 Phelan Road, Phelan, CA 92371

MW-11

PCE	<200
TCE	<200
1,1,1-TCA	168
1,4-Dioxane	847
1,1-DCA	34800
1,1-DCE	339
cis-1,2-DCE	3540
Vinyl Chloride	1280
Methylene-Cl	<200

PCE	<200
TCE	<200
1,1,1-TCA	321
1,4-Dioxane	101
1,1-DCA	22300
1,1-DCE	1690
cis-1,2-DCE	5080
Vinyl Chloride	1340
Methylene-Cl	<200

FP  
Sheen

NS-NW

MW-8

PCE	<200
TCE	<200
1,1,1-TCA	321
1,4-Dioxane	101
1,1-DCA	22300
1,1-DCE	1690
cis-1,2-DCE	5080
Vinyl Chloride	1340
Methylene-Cl	<200

FP (0.35)

NS-NW

FP  
Sheen

NS-NW

MW-16

PCE	83.0
TCE	184
1,1,1-TCA	50
1,4-Dioxane	15.6
1,1-DCA	3030
1,1-DCE	1840
cis-1,2-DCE	2260
Vinyl Chloride	1180
Methylene-Cl	<50

MW-9

PCE	98.6
TCE	31.9
1,1,1-TCA	14.4
1,4-Dioxane	2870
1,1-DCA	1230
1,1-DCE	1240
cis-1,2-DCE	340
Vinyl Chloride	310
Methylene-Cl	<5

MW-12

PCE	5.4
TCE	<5
1,1,1-TCA	45
1,4-Dioxane	<2
1,1-DCA	191
1,1-DCE	5.7
cis-1,2-DCE	<5
Vinyl Chloride	12.8
Methylene-Cl	<5

Chlorinated VOCs and 1,4-Dioxane Concentrations in First Water ( $\mu\text{g/L}$ )

Former Angeles Chemical Company, 8915 Sorensen Ave., Santa Fe Springs, CA 90670

FIGURE

11

### **Legend**

MONITORING WELL  
RAILROAD TRACKS  
CHAN-LINK FENCE  
March 2005

#### Free Product (thickness in feet)

### **GRAPHIC SCALE**

50 0 25 50

175/177

MW-14	PCE	23.7
	TCE	9.6
1,1,1-TCA	<2	
1,4-Dioxane	63.0	
1,1-DCA	83.6	
1,1-BCE	146	
cis-1,2-DCE	65.3	
Vinyl Chloride	4.5	
Maleylene-Cl	<2	

MW-20	PCE	108
TCE	25	
1,1,1-TCA	<2	
1,4-Dioxane	7.9	
1,1-DCA	7.7	
1,1-DCE	12.1	
cis-1,2-DCE	7.5	
Vinyl Chloride	1.2	
Methylene-Cl	<2	

MW-23	
PCE	69.1
TCE	35.3
1,1,1-TCA	<2
1,4-Dioxane	NA
1,1-DCA	9.4
1,1-DCE	<2
cis-1,2-DCE	4.2
Vinyl Chloride	<1
Methylene-Cl	<2

MW-15	PGE	87.6
	TCE	49.7
1,1,1-TCA	<2	
1,4-Dioxane	336	
1,1-DCA	693	
1,1-DCE	945	
cis-1,2-DCE	3450	
Vinyl Chloride	724	
Methylene-Cl	<2	

MW-17	PCE	117
	TCE	23.8
1,1,1-TCA	<2	
1,4-Dioxane	<2	
1,1-DCA	<1	
1,1-DCE	10.2	
cis-1,2-DCE	8.7	
Vinyl Chloride	<1	
Methylene-Cl	<2	

MW-25	
PCE	48.8
TCE	101
1,1,1-TCA	<2
1,1-Dioxane	NA
1,1-DCA	<1
1,1-DCE	17.6
cis-1,2-DCE	5.0
Vinyl Chloride	1.8
Methylene-Cl	<2

MW-24	
PCE	74.7
TCE	51.9
1,1,1-TCA	<2
1,4-Dioxane	NA
1,1-DCA	2.3
1,1-DCE	14.7
cis-1,2-DCE	6.6
Vinyl Chloride	<1
Methylene-Chloride	<2

MW-13	/
RCE	56.8
TCE	134
1,1,1-TCA	<2
1,4-Dioxane	<2
1,1-DCA	15.6
1,1-DCE	34.9
cis-1,2-DCE	18.3
Vinyl Chloride	6.2
Methylene-Cl	<2

**DATES OF SURVEY**

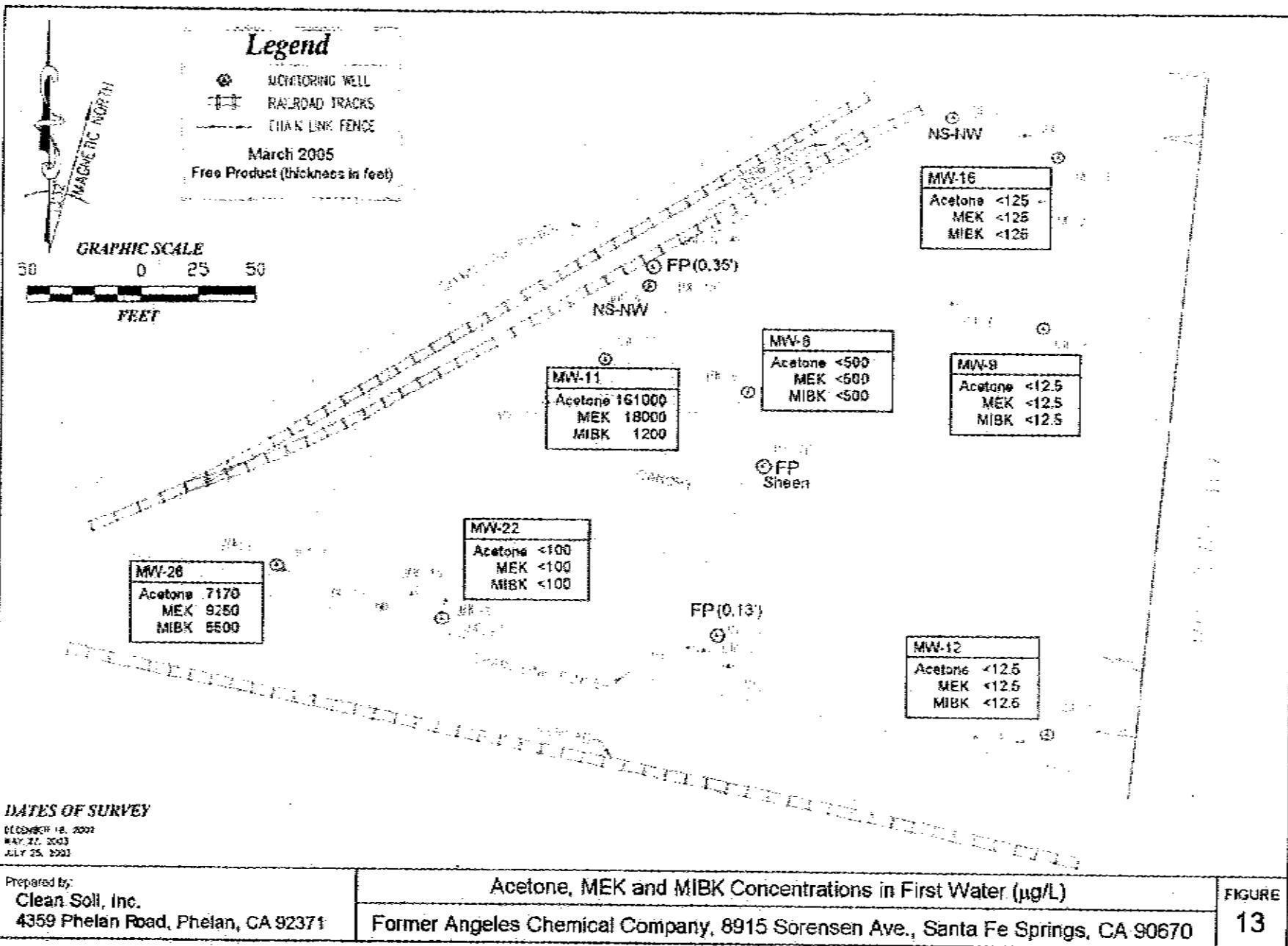
DECEMBER 15, 2003  
NAT 37, 2003  
14 F 2d 2003

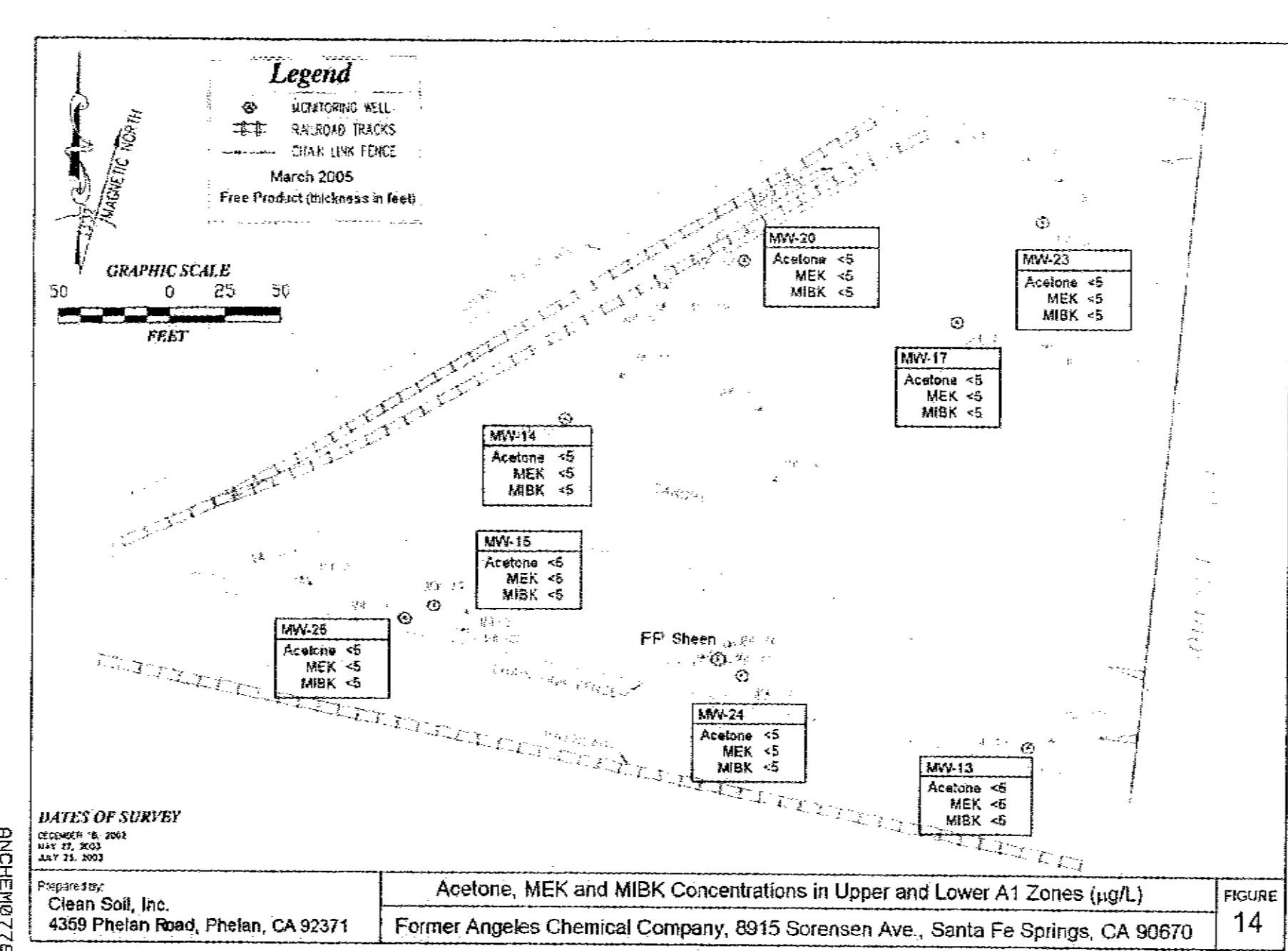
Prepared by  
**Clean Soil, Inc.**  
**4359 Phelan Road, Phelan, CA 92371**

### Chlorinated VOCs and 1,4-Dioxane Concentrations in Upper and Lower A1 Zones ( $\mu\text{g/l}$ )

Former Angeles Chemical Company, 8915 Sorensen Ave., Santa Fe Springs, CA 90670

**FIGURE**  
**12**





## TABLES

Table 1: Well and Screen Elevations and Groundwater Depths to Water and Elevations (in feet)

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26	
Well Elevation (TOC)	NA	150.42	150.79	148.27	149.39	146.82	149.69	149.18	149.41	149.12	150.09	150.22	150.86	150.5	148.32	149.03	149.63	149.2	149.14	150.02	150.67	148.42	148.8	150.84	150.83		
12/22/2004																											
Screened Interval (bg)	40 - 60	30 - 50	29 - 49	17 - 27	20 - 30	34 - 56	30.5 - 40.5	30.5 - 45.5	25 - 40	30 - 40	30 - 40	52 - 62	55 - 85	54 - 64	29 - 46	56 - 88	21 - 46	30 - 45	57 - 67	53 - 83	30 - 40	71 - 81	67 - 77	71 - 81	30 - 40		
Screen Elevation																											
Top	NA	120.42	121.79	121.27	119.39	114.82	119.13	116.86	124.41	119.12	120.09	98.22	95.86	98.8	119.32	93.03	128.83	119.2	92.14	97.02	120.67	77.42	82.9	78.84	120.83		
Bottom	NA	100.42	101.79	101.27	109.39	93.82	109.19	103.06	109.41	109.12	110.09	88.22	85.86	88.8	102.32	83.03	103.83	104.2	82.14	87.02	110.67	87.42	72.9	69.84	110.83		
Depth to Water (bg)																											
Feb-04	30.05	28.8	29.7	23.35	24.85	24.53																					
Nov-04	35.82	35.25	36.42	26.2	28.52	28.19																					
Oct-01	37.41	37.91	38.19	28.35	NA	28.7																					
Nov-01	NA	NA	NA	28.36	28.85	NA																					
Feb-02	36.2	36.39	37.39	28.44	30.32	29.21																					
Jun-02	37.82	38.75	38.19	28.44	NA	30.07	30.91	30.96																			
Oct-02	42.45	43.86	44.88	28.48	30.20	34.11	32.88	34.7																			
Dec-02	NA	43.19	44.22	28.28	FP only	34.03	33.82	34.87	32.83	32.71	33.28	41.65	43.08	43.83	33.89	40.44	33.06	33.33	41.11	42.34							
Mar-03	NA	41.07	41.35	28.36	FP only	33.18	32.81	33.22	32.44	32.49	33.07	39.77	40.85	41.53	32.01	38.28	35.36	33.42	39.08	40.36							
Jun-03	NA	38.98	38.95	26.95	FP only	30.44	30.85	31.1	30.41	30.15	31.05	37.85	39.2	39.62	29.99	36.41	33.13	34.3	37.05	38.5	35.8	34.23	37.73	39.22	36.7		
Sep-03	NA	NA	NA	28.41	FP only	NA	32.34	34.29	31.88	31.84	33.26	42.16	43.79	44.18	33.48	40.65	38.37	33.29	41.57	42.68	39.87	39.55	42.89	44.35	38.45		
Dec-03	NA	NA	NA	28.99	FP only	NA	34.55	36.98	33.71	33.73	34.3	45.12	46.72	46.84	36.85	43.47	42.73	38.65	44.53	45.44	Dry	42.85	45.89	47.35	39.6		
Mar-04	NA	NA	NA	28.41	FP only	NA	35.2	38.19	34.85	34.38	35.02	45.98	47.41	47.92	38.88	44.56	40.28	37.15	45.22	46.59	38.51	43.25	46.41	48.03	36.7		
Jun-04	NA	NA	NA	28.4	FP only	NA	35.42	39.15	35.08	35.38	35.2	46.81	48.31	48.49	36.36	45.15	45.74	37.23	46.29	47.48	39.82	44.24	47.32	48.95	39.25		
Sep-04	NA	NA	NA	28.42	FP only	NA	36.18	41.05	38.53	35.92	35.82	49.27	51.08	51.32	40.1	48.21	FP only	38.34	48.82	50.08	Dry	46.98	49.93	51.62	NA		
Dec-04	NA	NA	NA	28.47	29.8	NA	36.02	41.89	35.83	38.28	38.32	51.18	52.71	53.18	40.34	49.57	40.5	37.23	50.59	51.82	Dry	48.54	51.35	53.22	39.52		
Mar-05	NA	NA	NA	28.43	29.8	NA	34	37.82	33.41	34.86	33.87	46.36	46.5	47.98	38.27	45.88	29.3	35.88	45.33	46.85	31.55	43.6	46.88	48.38	33.17		
Water Elevation																											
Feb-04	NA	121.62	121.09	124.92	124.54	124.09																					
Nov-04	NA	115.17	114.37	122.07	120.87	120.43																					
Oct-01	NA	112.51	111.6	121.92	NA	119.92																					
Nov-01	NA	NA	NA	121.91	120.54	NA																					
Feb-02	NA	114.03	113.4	121.83	119.07	119.41																					
Jun-02	NA	111.87	111.6	121.81	NA	118.85	118.72	118.18																			
Oct-02	NA	106.76	106.13	121.79	119.11	114.51	118.95	114.46																			
Dec-02	NA	107.23	108.57	121.99	NA	114.58	118.01	114.49	116.78	116.41	116.83	106.57	107.8	106.97	114.83	106.59	116.57	115.87	106.03	107.68							
Mar-03	NA	109.35	109.44	121.91	NA	115.44	116.52	115.94	116.83	116.63	117.02	110.45	109.71	109.07	116.31	110.75	114.27	115.78	110.08	109.66							
Jun-03	NA	110.44	110.84	121.82	NA	118.18	118.78	118.06	118	118.67	119.04	112.37	111.46	110.98	118.33	112.82	116.5	110.9	112.08	111.52	114.87	114.19	112.17	111.42	114.13		
Sep-03	NA	NA	NA	121.68	NA	NA	117.29	114.87	117.73	117.28	116.83	106.06	106.87	106.41	114.84	106.36	111.28	115.91	107.57	107.34	110.8	106.87	107.21	106.29	112.38		
Dec-03	NA	NA	NA	121.68	NA	NA	115.08	112.2	115.7	115.39	115.78	105.1	103.94	103.78	111.47	105.56	106.9	110.55	104.81	104.58	Dry	105.77	104.21	103.29	111.23		
Mar-04	NA	NA	NA	121.68	NA	NA	114.43	110.97	114.56	114.78	115.07	104.24	103.26	102.88	111.44	104.47	109.35	112.05	103.92	103.43	112.16	105.17	103.49	102.81	114.13		
Jun-04	NA	NA	NA	121.87	NA	NA	114.21	110.01	114.33	113.74	114.88	103.41	102.35	102.11	109.98	103.89	111.97	102.85	102.54	110.75	104.18	102.58	101.89	111.58			
Sep-04	NA	NA	NA	121.85	NA	NA	113.45	108.11	112.88	113.2	114.27	100.95	99.8	99.28	108.22	100.82	NA	110.88	100.22	99.93	NA	101.44	99.97	99.02	NA		
Dec-04	NA	NA	NA	121.8	119.59	NA	113.81	107.47	113.78	112.88	113.77	99.04	97.85	97.42	107.98	99.46	109.13	111.97	98.55	98.4	NA	99.88	98.55	97.42	111.31		
Mar-05	NA	NA	NA	121.84	119.49	NA	115.83	111.34	116	114.48	116.42	103.88	103.21	102.82	112.05	103.35	120.33	113.32	103.81	103.17	119.15	104.82	103.02	102.25	117.66		

**Table 2: TPH-gas and VOCs from Free Product Sample Results using EPA Methods 8015 and 8260 ( $\mu\text{g/L}$ )**

	Date	MW-6	MW-8	MW-10	MW-16	MW-18	MW-19
Screened Interval ( feet bg)		20-30	30.5-40.5	25-40	29-46	21-46	30-45
TPH-gas	Jun-02	8.E+08	8.E+08	NA	NA	NA	NA
	Dec-03	NA	NA	NA	4.55E+08	NA	4.25E+08
	Mar-04	NA	NA	446000	NA	NA	NA
VOCs							
Acetone	Oct-01	<25,000*					
	Mar-04	NA	NA	<1,250,000	NA	<1,250,000	<1,250,000
	Sep-04	NA	<2,500,000	<2,500,000	NA	NA	<2,500,000
Benzene	Oct-01	110,000*					
	Mar-04	NA	NA	<250,000	NA	<250,000	365,000
	Sep-04	NA	<100,000	<100,000	NA	NA	464,000
2-Butanone (MEK)	Oct-01	<25,000*					
	Mar-04	NA	NA	<1,250,000	NA	<1,250,000	<1,250,000
	Sep-04	NA	<2,500,000	<2,500,000	NA	NA	<2,500,000
Chloroethane	Mar-04	NA	NA	<500,000	NA	<500,000	<500,000
	Sep-04	NA	<200,000	<200,000	NA	NA	<200,000
1,1-Dichloroethane	Oct-01	592,000*					
	Mar-04	NA	NA	3,190,000	NA	1,590,000	625,000
	Sep-04	NA	4,040,000	5,740,000	NA	NA	1,326,000
1,2-Dichloroethane	Oct-01	<5,000*					
	Mar-04	NA	NA	<500,000	NA	<500,000	<500,000
	Sep-04	NA	<200,000	<200,000	NA	NA	<200,000
1,1-Dichloroethene	Oct-01	417,000*					
	Mar-04	NA	NA	730,000	NA	928,000	4,840,000
	Sep-04	NA	782,000	710,000	NA	NA	5,880,000
cis 1,2-Dichloroethene	Oct-01	1,060,000*					
	Mar-04	NA	NA	1,530,000	NA	1,620,000	1,630,000
	Sep-04	NA	1,765,000	1,900,000	NA	NA	2,793,000
trans 1,2-Dichloroethene	Oct-01	<5,000*					
	Mar-04	NA	NA	<500,000	NA	<500,000	<500,000
	Sep-04	NA	<200,000	<200,000	NA	NA	<200,000
1,4 Dioxane	Mar-04	NA	NA	<12,500,000	NA	<12,500,000	<12,500,000
	Sep-04	NA	<5,000,000	<5,000,000	NA	NA	<5,000,000
Ethylbenzene	Oct-01	4,320,000*					
	Mar-04	NA	NA	5,330,000	NS-FP	7,080,000	6,960,000
	Sep-04	NA	5,910,000	7,280,000	NA	NA	8,770,000

**Table 2: TPH-gas and VOCs from Free Product Sample Results using EPA Methods 8015 and 8260 (µg/L)**

VOCs	Date	MW-6	MW-8	MW-10	MW-15	MW-18	MW-19
Methylene Chloride	Oct-01	<5,000*					
	Mar-04	NA	NA	>500,000	NA	<500,000	<500,000
	Sep-04	NA	<200,000	<200,000	NA	NA	<200,000
4-Methyl-2-pentanone	Oct-01	<25,000*					
	Mar-04	NA	NA	<1,250,000	NA	<1,250,000	<1,250,000
	Sep-04	NA	<2,500,000	<2,500,000	NA	NA	<2,500,000
Naphthalene	Oct-01	1,680,000*					
	Mar-04	NA	NA	1,980,000	NA	1,620,000	4,120,000
	Sep-04	NA	3,260,000	2,890,000	NA	NA	6,000,000
n-Propylbenzene	Mar-04	NS-FP	NS-FP	2,820,000	NA	3,230,000	2,980,000
	Sep-04	NA	3,787,000	3,700,000	NA	NA	4,240,000
Tetrachloroethene	Oct-01	531,000*					
	Mar-04	NA	NA	<500,000	NA	543,000	4,820,000
	Sep-04	NA	<200,000	<200,000	NA	NA	2,870,000
1,1,1-Trichloroethane	Oct-01	28,100,000*					
	Mar-04	NA	NA	8,870,000	NA	4,140,000	35,000,000
	Sep-04	NA	5,460,000	7,330,000	NA	NA	45,700,000
Trichloroethene	Oct-01	753,000*					
	Mar-04	NA	NA	<500,000	NA	<500,000	560,000
	Sep-04	NA	<200,000	<200,000	NA	NA	300,000
1,2,4-Trimethylbenzene	Oct-01	22,100,000*					
	Mar-04	NA	NA	31,900,000	NA	30,600,000	45,400,000
	Sep-04	NA	43,400,000	37,000,000	NA	NA	60,100,000
1,3,5-Trimethylbenzene	Oct-01	5,400,000*					
	Mar-04	NA	NA	8,560,000	NA	9,020,000	9,480,000
	Sep-04	NA	11,748,000	10,100,000	NA	NA	13,500,000
Toluene	Oct-01	9,010,000*					
	Mar-04	NA	NA	8,620,000	NA	15,300,000	11,400,000
	Sep-04	NA	9,010,000	15,200,000	NA	NA	16,400,000
Vinyl Chloride	Oct-01	<5,000*					
	Mar-04	NA	NA	<500,000	NA	<500,000	<500,000
	Sep-04	NA	<100,000	<100,000	NA	NA	<100,000
Xylenes	Oct-01	10,370,000*					
	Mar-04	NA	NA	17,600,000	NA	22,500,000	16,000,000
	Sep-04	NA	21,400,000	26,300,000	NA	NA	22,100,000

NA= Not Analyzed.

Blue= Chemicals stored on-site.

Red= Transformation compounds.

Table 3: Conductivity, pH, and TPH-gas Groundwater Sample Results using EPA Method 8015 (µg/L)

	Data	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26			
Screened Interval (bg)	40-80	30-50	29-49	17-27	20-30	34-55	30.5-40.5	30.5-45.5	25-40	30-40	30-40	52-62	55-65	54-64	29-46	55-66	21-46	30-45	57-67	53-63	30-40	71-81	67-77	71-81	30-40					
DTW (t)	Feb-94	30.05	28.8	29.7	23.35	24.85	24.53																							
	Nov-00	35.82	35.26	36.42	26.2	28.52	28.19																							
	Oct-01	37.41	37.91	39.19	26.35	NA	28.7																							
	Nov-01	NA	NA	NA	26.36	26.85	NA																							
	Feb-02	36.2	38.39	37.59	26.44	30.32	29.21																							
	Jun-02	37.92	36.75	39.19	26.46	NA	30.07	30.91	30.95																					
	Oct-02	42.45	43.85	44.66	26.44	30.26	34.11	32.66	34.7																					
	Dec-02	NA	43.19	44.22	26.28	FP only	34.03	33.62	34.67	32.63	32.71	33.25	41.85	43.06	43.63	33.69	40.44	33.06	33.33	41.11	42.34									
	Mar-03	NA	41.07	41.35	26.36	FP only	33.18	32.81	33.22	32.44	32.49	33.07	39.77	40.95	41.53	32.01	38.28	35.35	33.42	38.08	40.36									
	Jun-03	NA	39.96	39.85	26.35	FP only	30.44	30.85	31.1	30.41	30.15	31.05	37.85	38.2	39.82	29.99	36.41	33.13	38.3	37.05	38.5	38.8	34.23	37.73	38.22	38.7				
	Sep-03	NA	NA	NA	26.41	FP only	NA	32.34	34.29	31.68	31.84	33.26	42.18	43.79	44.19	33.46	40.65	38.37	33.29	41.67	42.68	39.87	39.55	42.99	44.35	38.45				
	Dec-03	NA	NA	NA	26.39	FP only	NA	34.55	36.96	33.71	33.73	34.3	45.12	45.72	46.84	36.85	43.47	42.73	39.95	44.53	45.44	Dry	42.65	45.89	47.35	39.6				
	Mar-04	NA	NA	NA	26.41	FP only	NA	35.2	36.19	34.85	34.36	35.02	46.98	47.41	47.92	36.88	44.58	40.28	37.15	45.22	46.59	38.51	43.25	46.41	48.03	38.7				
	Jun-04	NA	NA	NA	28.4	FP only	NA	35.42	39.15	35.08	35.38	35.2	46.81	48.31	48.49	38.38	45.15	45.74	37.29	46.29	47.48	39.92	44.24	47.32	48.95	39.25				
	Sep-04	NA	NA	NA	26.42	FP only	NA	38.18	41.05	35.53	35.82	35.82	49.27	51.06	51.32	40.1	48.21	FP only	38.34	48.92	50.09	Dry	46.96	49.93	51.62	NA				
	Dec-04	NA	NA	NA	26.47	29.8	NA	38.02	41.59	35.63	36.26	36.32	51.18	52.71	53.18	40.34	49.67	40.5	37.28	50.59	51.82	Dry	48.84	51.35	53.22	39.52				
	Mar-05	NA	NA	NA	26.43	29.9	NA	34	37.82	39.41	34.86	33.67	46.36	46.5	47.98	36.27	45.88	29.3	35.88	45.33	46.85	31.55	43.6	48.88	48.39	33.17				
Conductivity	Dec-02	NA	2011	2065	NA	NA	2710	NA	2331	2871	2686	1572	1374	1866	1821	2106	1885	2515	5977	1907	1746									
	Mar-03	NA	2094	1874	NA	NA	2768	NA	2325	4382	3793	1492	1802	1913	1816	2011	1882	2643	5912	1823	1895									
	Jun-03	NA	1763	1981	NA	NA	2882	NA	2406	4438	3245	1192	1832	1871	1851	1931	1913	2602	6017	1788	1798	2500	1200	1300	1300	3060				
	Sep-03	NA	NA	NA	NA	NA	NA	NA	2540	3978	3580	1313	1904	2100	1948	2219	2530	3028	1988	1910	NS-NW	2265	1799	1883	NS-NW					
	Dec-03	NA	NA	NA	NA	NA	NA	NA	2585	2650	3070	1387	1953	1964	1927	NS-FP	1981	2674	NS-FP	2192	1668	NS-NW	NA	NA	NA	NS-NW				
	Mar-04	NA	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	2653	NS-FP	2582	1313	2060	1999	2073	NS-FP	1954	NS-FP	2168	2080	1663	NA	NA	NA	2302				
	Jun-04	NA	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	2474	NS-FP	2502	1270	1812	1784	1828	NS-FP	1867	NS-FP	1778	1607	NA	1117	1807	1807	2032				
	Sep-04	NA	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	2556	NS-FP	2374	1171	2014	1619	2032	NS-FP	1781	NS-FP	1697	1908	NA	NA	NA	NA	NS				
	Dec-04	NA	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	2075	NS-FP	1568	1018	1780	1509	1725	NS-FP	1663	NS-FP	1843	NS-FP	NS-NW	NA	NA	NA	NS-NW				
	Mar-05	NA	NA	NA	NA	NS-NW	NS-NW	NA	NS-NW	3396	4211	NS-FP	3857	1815	1744	2122	2981	1906	2170	NS-FP	1796	NS-FP	2528	NA	NA	NA	3679			
pH	Dec-02	NA	6.83	6.82	NA	NA	6.75	NA	6.56	6.82	6.87	7.02	6.97	6.93	6.56	6.93	6.88	7.02	6.98	6.98										
	Mar-03	NA	6.6	6.9	NA	NA	6.7	NA	7	6.7	6.6	7.1	7.5	7	6.8	7.2	6.6	6.9	7.3	7.6										
	Jun-03	NA	6.9	6.7	NA	NA	6.6	NA	6.7	6.4	6.6	6.4	6.8	6.8	6.7	6.5	6.8	6.3	6.7	6.9	6.6	NA	NA	NA	NA	NA	NA			
	Sep-03	NA	NA	NA	NA	NA	NA	NA	6.81	6.55	6.52	6.49	6.93	6.9	6.75	6.7	6.83	6.23	NS-FP	6.79	6.77	NS-NW	6.84	6.74	6.67	NS-NW				
	Dec-03	NA	NA	NA	NA	NA	NA	NA	6.9	6.6	6.7	7.4	6.9	7.1	7	NS-FP	7.1	6.4	NS-FP	7	6.8	NS-NW	NA	NA	NA	NS-NW				
	Mar-04	NA	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	6.7	NA	7	6.8	6.8	6.7	NS-FP	6.7	6.7	NS-FP	6.7	6.7	6.6	6.4	NA	NA	7				
	Jun-04	NA	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	6.7	NS-FP	6.6	6.8	6.9	6.7	NS-FP	6.9	6.9	NS-FP	6.8	6.7	NA	6.1	4.3	4.6	5.8				
	Sep-04	NA	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	6.87	NS-FP	6.85	7	6.79	6.74	6.8	NS-FP	6.79	NS-FP	6.26	6.74	NA	NA	NA	NA	NS				
	Dec-04	NA	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	6.9	NS-FP	6.6	6.9	6.8	6.6	NS-FP	6.4	NS-FP	NS-FP	6.5	NS-FP	NS-NW	NA	NA	NA	NS-NW				
	Mar-05	NA	NA	NA	NA	NS-NW	NS-NW	NA	NS-NW	6.55	7.4	NS-FP	6.47	6.34	6.87	6.82	7.51	7.15	6.83	NS-FP	6.82	7.24	NA	NA	NA	NA	6.84			

Table 4: Detected VOCs from Groundwater Sample Results using EPA Method 8260 ( $\mu\text{g/L}$ )

	Date	MW-1 <sup>a</sup>	MW-2 <sup>a</sup>	MW-3 <sup>a</sup>	MW-4 <sup>a</sup>	MW-5 <sup>a</sup>	MW-7 <sup>a</sup>	MW-8 <sup>a</sup>	MW-9 <sup>a</sup>	MW-10 <sup>a</sup>	MW-11 <sup>a</sup>	MW-12 <sup>a</sup>	MW-13 <sup>a</sup>	MW-14 <sup>a</sup>	MW-15 <sup>a</sup>	MW-16 <sup>a</sup>	MW-17 <sup>a</sup>	MW-18 <sup>a</sup>	MW-19 <sup>a</sup>	MW-20 <sup>a</sup>	MW-21 <sup>a</sup>	MW-22 <sup>a</sup>	MW-23 <sup>a</sup>	MW-24 <sup>a</sup>	MW-25 <sup>a</sup>	MW-26 <sup>a</sup>		
Screened Interval (feet bg)		40-60	30-50	24-45	17-27	20-30	34-55	30-54.5	25-45	30-40	30-40	52-62	55-65	54-64	29-65	56-65	21-45	30-45	57-67	53-63	30-40	71-81	67-77	71-81	30-40			
Depth to Water (feet)	Feb-04	30.05	28.4	29.7	23.35	24.85	24.53																					
DTW	Nov-00	35.82	35.28	36.42	26.2	28.52	28.19																					
	Oct-01	37.41	37.91	39.19	26.35	NA	28.7																					
	Nov-01	NA	NA	NA	26.36	28.85	NA																					
	Feb-02	35.2	35.38	37.36	26.44	30.32	29.21																					
	Jun-02	37.02	38.75	38.19	26.46	NA	30.07	30.91	30.98																			
	Oct-02	42.45	43.66	44.68	26.48	30.28	34.11	32.66	34.7																			
	Dec-02	NA	43.19	44.22	26.28	FP only	34.03	33.62	34.67	32.83	32.71	33.28	41.65	43.08	43.63	33.69	40.44	33.08	33.33	45.11	42.34							
	Mar-03	NA	41.07	41.35	26.38	FP only	33.18	32.81	33.22	32.44	32.49	33.07	36.77	40.95	41.63	32.01	38.28	35.38	33.42	39.08	40.36							
	Jun-03	NA	39.96	39.85	26.35	FP only	30.44	30.86	31.1	30.41	30.15	31.05	37.85	39.2	38.62	29.89	38.41	33.13	38.3	37.05	38.5	35.8	34.23	37.73	38.22	38.7		
	Sep-03	NA	NA	NA	26.41	FP only	NA	32.34	34.29	31.88	31.84	33.26	42.16	43.79	44.19	33.48	40.85	38.37	33.29	41.57	42.68	39.87	39.55	42.89	44.35	38.45		
	Dec-03	NA	NA	NA	26.38	FP only	NA	34.55	36.98	33.71	33.73	34.3	46.12	46.72	46.84	36.85	43.47	42.73	38.65	44.53	45.44	Dry	42.65	45.69	47.35	39.6		
	Mar-04	NA	NA	NA	26.41	FP only	NA	35.2	38.19	34.85	34.36	35.02	46.96	47.41	47.82	36.88	44.86	40.28	37.15	45.22	46.58	38.51	43.25	46.41	48.03	36.7		
	Jun-04	NA	NA	NA	26.4	FP only	NA	35.42	39.16	35.08	35.38	35.2	48.81	48.31	48.49	38.36	45.15	45.74	37.23	48.29	47.48	39.92	44.24	47.32	48.95	39.25		
	Sep-04	NA	NA	NA	26.42	FP only	NA	35.18	41.05	38.53	35.82	35.82	49.27	51.08	51.32	40.1	48.21	FP only	38.34	48.92	50.09	Dry	46.96	46.93	51.62	NA		
	Dec-04	NA	NA	NA	26.47	28.8	NA	35.02	41.89	35.83	36.26	36.32	51.18	52.71	53.18	40.34	49.57	40.5	37.23	50.59	51.62	Dry	48.34	51.35	53.22	39.52		
	Mar-05	NA	NA	NA	26.43	29.9	NA	34	37.82	33.41	34.88	33.67	46.38	46.5	47.88	36.27	45.68	29.3	35.88	45.33	46.85	31.55	43.6	48.88	48.39	33.17		
VOCs																												
Acetone	Oct-01	<1,250	<250	<625	NS-NW	Table 2	1,190																					
	Feb-02	<625	<25	3,160	NS-FP	NS-FP	748																					
	Jun-02	<1,250	<2,500	<625	NS-FP	NS-FP	<125	NS-FP	<500	NS-FP	NS-FP	<125	NS-FP															
	Oct-02	<2,500	<250	<625	NS-FP	NS-FP	<125	NS-FP	<500	NS-FP	NS-FP	<125	NS-FP															
	Dec-02	NA	<1,250	<1,250	NS-FP	NS-FP	<625	NS-FP	<125	29,900	692	<125	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	
	Mar-03	NA	<4,500	<2,500	NS-FP	NS-FP	<125	NS-FP	<125	25,600	5,760	<250	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	
	Jun-03	NA	<600	<1,000	NS-FP	NS-FP	<125	NS-FP	<125	46,400	13,600	<125	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	
	Sep-03	NA	NA	NA	NS-NW	NS-FP	NA	NS-FP	<50	73,000	5,950	<12.5	<5	<5	<10	<12.5	<5	<10	NS-FP	<5	<5	<5	<5	<5	<5	<5	<5	
	Dec-03	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<5	19,200	2,240	<12.5	<5	<10	<12.5	NS-FP	<5	34,400	NS-FP	<5	<100	NS-NW	Table 5	Table 5	Table 5	NS-NW		
	Mar-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<5	Table 2	33,000	<12.5	<5	<5	<5	NS-FP	<5	Table 2	Table 2	<12.5	<10	Table 5	Table 5	Table 5	Table 5	NS-NW		
	Jun-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<10	NS-FP	888	<10	<5	<5	<5	NS-FP	<5	NS-FP	<5	<10	NS-NW	<5	<5	<5	<5	7,220		
	Sep-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<25	NS-FP	588	<10	<5	<5	<5	NS-FP	<5	NS-FP	<5	<10	NS-NW	<5	<5	<5	<5	NA		
	Dec-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<25	NS-FP	<500	<5	<5	<10	<5	NS-FP	<5	NS-FP	<5	NS-FP	<5	NS-NW	<5	<5	<5	<5	NS-NW	
	Mar-05	NA	NA	NA	NS-NW	NS-NW	NA	<500	<12.5	NS-FP	151,000	<12.5	<5	<5	<5	NS-FP	<5	NS-FP	<5	<100	<5	<5	<5	<5	<5	7,170		
Benzene	Feb-04	194	<100	63	111	705	1	48																				
	Nov-00	<2,500	61	73	110	NS-FP	NS-FP	68																				
	Oct-01	125	105	110	NS-NW	Table 2	55																					
	Feb-02	231	204	108	NS-FP	NS-FP	1	83.2																				
	Jun-02	300	222	125	NS-FP	NS-FP	<5	NS-FP	80.8																			
	Oct-02	245	177	99.2	NS-FP	NS-FP	1	121	NS-FP	863																		
	Dec-02	NA	180	137	NS-FP	NS-FP	<25	NS-FP	85.2	<500	431	19.5	1	<25	<10	79	<1	810	1,165	<1	7.9							
	Mar-03	NA	172	127	NS-FP	NS-FP	62.8	NS-FP	54	302	974	13.3	<1	<25	<10	82.5	<1	500	1,100	<1	9							
	Jun-03	NA	<100	<200	NS-FP	NS-FP	61	NS-FP	64.4	250	520	<5	<1	<1	5.7	97.5	<1	392	1,390	<2.5	19	13.5	<1	<1	<1	125		
	Sep-03	NA	NA	NA	NS-NW	NS-FP	NA	NS-FP	75	340	775	5.5	<1	<1	5.5	6.6	72	<1	380	NS-FP	<1	83	NS-NW	<1	<1	<1	270	
	Dec-03	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	2.1	282	768	9.1	<1	<1	14.5	12.6	NS-FP	<1	415	NS-FP	1.3	84	NS-NW	Table 5	Table 5	Table 5	NS-NW	
	Mar-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	29.3	Table 2	935	7.5	<1	<1	4.5	36.1	NS-FP	<1	Table 2	<1	92.7	34	Table 5	Table 5	Table 5	Table 5	225	
	Jun-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	26.8	NS-FP	715	2.2	<1	<1	3.4	1.6	NS-FP	<1	NS-FP	<1	5	NS-NW	<1	<1	<1	142		
	Sep-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	23.9	NS-FP	708	0.6	<1	<1	3.2	14.6	NS-FP	<1	NS-FP	<1	116	NS-NW	<1	<1	<1	NA		
	Dec-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	17	NS-FP	1,040	<1	<1	<1	<2	1.6	NS-FP	<1	NS-FP	<1	NS-FP	NS-NW	<1	<1	<1	NS-NW		
	Mar-05	NA	NA	NA	NS-NW	NS-NW	NA	254	28	NS-FP	423	<2.5	<1	<1	22.4	81.3	<1	NS-FP	NS-FP	<1	NS-FP	2						

Table 4 (cont.): Detected VOCs from Groundwater Sample Results using EPA Method 6260 (µg/L)

VOCs	Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26				
2,5-Dimethylfuran (DMF)	Feb-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
	Nov-03	3,100	<100	<10,000	NS-FP	NS-FP	1,400																								
	Oct-04	<1,250	<250	500	NS-NW	Table 2	800																								
	Feb-02	<625	<625	<500	NS-FP	NS-FP	<50																								
	Jul-02	<1,250	<2,500	<625	NS-FP	NS-FP	<125																								
	Oct-02	<2,500	<250	<250	NS-FP	NS-FP	<125																								
	Dec-02	NA	<1,250	<1,250	NS-FP	NS-FP	<25	NS-FP	<125	18,300	1,100	<125	<25	<25	<25	<25	<25	<25	9,300	16,300	<25	<25	<25	<25	<25	<25	<25	<25			
	Mar-03	<5,000	<2,500	NS-FP	NS-FP	<25	NS-FP	<125	21,100	15,600	<250	<25	<25	<25	<25	<25	<25	<25	73,500	26,900	<25	<25	<25	<25	<25	<25	<25	<25			
	Jun-03	NA	<500	<1,000	NS-FP	NS-FP	<25	NS-FP	<50	20,200	5,300	<125	<25	<25	<25	<25	<25	<25	32,000	43,800	<25	<25	<25	<25	<25	<25	<25	<25			
	Sep-03	NA	NA	NA	NS-NW	NS-FP	NA	NS-FP	<25	58,000	5,500	<125	<25	<25	<25	<25	<25	<25	NS-FP	NS-FP	<25	<25	NS-NW	NS-NW	NS-NW	NS-NW	NS-NW	NS-NW			
	Dec-03	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<5	4,000	<125	<25	<10	<25	<25	<25	<25	<25	23,700	NS-FP	<25	<25	NS-NW	NS-NW	Table 5	Table 5	Table 5	Table 5			
	Mar-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<5	Table 2	13,500	<125	<25	<15	<25	<25	<25	<25	7,800	2,100	<25	<25	Table 5								
	Jun-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<10	NS-FP	<250	<10	<5	<25	<25	<25	<25	NS-FP	NS-FP	<10	NS-NW	<5	<5	<5	<5	<5	<5				
	Sep-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<25	NS-FP	<125	<10	<5	<25	<25	<25	<25	NS-FP	NS-FP	<10	NS-NW	<5	<5	<5	<5	<5	<5				
	Dec-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<25	NS-FP	<500	<5	<5	<10	<5	<25	<25	NS-FP	NS-FP	<5	NS-NW	<5	<5	<5	<5	<5	<5				
	Mar-05	NA	NA	NA	NS-NW	NS-NW	NA	NS-FP	<125	18,050	<125	<5	<5	<5	<25	<25	<25	NS-FP	NS-FP	<100	<5	<5	<5	<5	<5	<5	<5	<5			
	Jun-05	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<100	NS-FP	<250	<25	<25	<25	<25	<25	<25	NS-FP	NS-FP	<25	<25	NS-NW	NS-NW	NS-NW	NS-NW	NS-NW	NS-NW				
	Oct-05	<125	112	<100	NS-FP	NS-FP	17																								
	Dec-02	<500	<500	<125	NS-FP	NS-FP	<25	NS-FP	<100																						
	Oct-03	<500	<50	<50	NS-FP	NS-FP	<25	NS-FP	<125	NS-FP	<125	<25	<5	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25			
	Dec-02	NA	<250	<250	NS-FP	NS-FP	<125	NS-FP	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25			
	Mar-03	NA	<1,000	4,000	NS-FP	NS-FP	248	NS-FP	<25	<1,000	982	<250	<5	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25			
	Jun-03	NA	4,500	11,500	NS-FP	NS-FP	311	NS-FP	<20	5,000	785	<10	<2	<2	<5	<50	<2	1,870	2,880	<5	<2	<2	<2	<2	<2	<2	<2	<2			
	Sep-03	NA	NA	NA	NS-NW	NS-FP	NA	NS-FP	<20	340	1,700	<5	<2	<2	<4	<50	<2	400	NS-FP	<2	413	NS-NW	<2	<2	<2	<2	<2	<2			
	Dec-03	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<2	820	1,550	<5	<2	<4	<5	NS-FP	<2	<200	NS-FP	<2	240	NS-NW	<2	<2	<2	<2	<2	<2			
	Mar-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<25	Table 2	4,670	<5	<2	<2	<4	<4	NS-FP	<2	Table 2	<2	104	Table 5									
	Jun-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<4	NS-FP	3,960	<4	<2	<2	<2	<2	NS-FP	<2	NS-FP	<2	24	NS-NW	<2	<2	<2	<2	<2	<2			
	Sep-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<10	NS-FP	3,080	<4	<2	<2	<2	<2	NS-FP	<2	NS-FP	<2	44	NS-NW	<2	<2	<2	<2	<2	<2			
	Dec-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<10	NS-FP	3,400	<2	<2	<4	<2	<2	NS-FP	<2	NS-FP	<2	NS-FP	<2	NS-FP	<2	NS-FP	<2	NS-FP	<2	NS-FP		
	Mar-05	NA	NA	NA	NS-NW	NS-NW	NA	NS-FP	142	88	NS-FP	14,410	<6	<25	<2	10%	100	NS-FP	<2	NS-FP	<2	104	<2	<2	<2	<2	<2	<2	<2	<2	
	Feb-04	846	1,130	88	1410	2,280	2,130																								
	Nov-00	17,000	1,800	800	NS-FP	NS-FP	2,000																								
	Oct-01	8,100	1,930	1,030	NS-NW	Table 2	2,670																								
	Feb-02	20,800	2,310	1,360	NS-FP	NS-FP	5,400																								
	Jun-02	18,400	2,700	1,340	NS-FP	NS-FP	4,180	NS-FP	1,210																						
	Oct-02	15,400	2,920	1,130	NS-FP	NS-FP	5,800	NS-FP	1,380																						
	Dec-02	NA	1,920	1,190	NS-FP	NS-FP	3,550	NS-FP	1,190	42,401	15,400	3,830	17.3	171	79.8	3,930	13	4,380	5,150	16.2	141										
	Mar-03	NA	2,180	1,710	NS-FP	NS-FP	3,780	NS-FP	1,020	41,500	48,800	1,800	8.4	150	117	3,330	2.5	6,700	5,110	18	270										
	Jun-03	NA	1,140	1,020	NS-FP	NS-FP	3,470	NS-FP	1,480	51,700	37,800	364	11.5	<2	107	3,330	<2	9,820	8,840	47.6	505	1,200	<2	<2	<2	<2	<2	<2	<2	<2	
	Sep-03	NA	NA	NA	NS-NW	NS-FP	NA	NS-FP	1,350	47,400	43,000	505	<2	101	88	4,450	<2	7,040	NS-FP	26.5	1,375	NS-NW	<2	<2	<2	<2	<2	<2	<2	<2	
	Dec-03	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	50	53,500	40,200	735	2.3	219	262	NS-FP	<2	5,440	NS-FP	123	2,300	NS-NW	<2	<2	<2	<2	<2	<2	<2	<2	
	Mar-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	965	Table 2	52,700	495	2.5	118	572	NS-FP	<2	Table 2	Table 2	38.2	2,240	1,000	Table 5								
	Jun-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	910	NS-FP	55,000	306	8.3	45.9	53.6	NS-FP	4.3	NS-FP	NS-FP	12.6	203	NS-NW	<1	<1	<1	<1	<1	<1	<1	<1	
	Sep-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	828	NS-FP	26,400	160	2.8	151	182	NS-FP	<1	NS-FP	NS-FP	2.5	2700	NS-NW	<2	<2	<2	<2	<2	<2	<2	<2	
	Dec-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	406	NS-FP	85,300	166	17.4	101	101	NS-FP	<1	NS-FP	NS-FP	1.9	NS-FP	NS-FP	<1	<1	<1	<1	<1	<1	<1	<1	
	Mar-05	NA	NA	NA	NS-NW	NS-NW	NA	NS-FP	22,300	1,230	NS-FP	34,600	191	15.5	63.8	603	3,030	<1	NS-FP	NS-FP	7.7	NS-FP	1,399	9.4	2.3	<1	34	1,870			

PNCHEM0785

Table 1. Comparison of the results of the present study with those of previous studies.

Detected VOCs from Groundwater samples - Results using EPA Method 250 (Fig. 1)

Table 4 (cont.) Detected VOCs from Concentrated Sample Results using EPA Method 1260 (part)

Table 4 (cont.): Detected VOCs from Groundwater Sample Results using EPA Method 6260 ( $\mu\text{g/L}$ )

VOCs	Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26										
n-Propylbenzene	Jun-02	<50	28.5	<25	NS-FP	NS-FP	<15	NS-FP	<100	NS-FP	<25	258	33.5	<10	<50	<24	<5	<500	<5	<25	<25	<25	<25	<25	<25	<25	<100										
	Oct-02	<50	44.2	530	NS-FP	NS-FP	<50	NS-FP	<25	NS-FP	<25	<500	<500	<10	<50	<25	<5	<500	<5	<25	<25	<25	<25	<25	<25	<25	<100										
	Dec-02	NA	<250	<50	NS-FP	NS-FP	<125	NS-FP	<25	NS-FP	<25	<500	<500	<10	<50	<25	<5	<500	<5	<25	<25	<25	<25	<25	<25	<25	<100										
	Mar-03	NA	<1,000	<500	NS-FP	NS-FP	<125	NS-FP	<25	NS-FP	<25	<400	<10	<2	<5	<50	<2	<400	<100	<5	<2	<200	<2	<2	<2	<2	<100										
	Jun-03	NA	<200	540	NS-FP	NS-FP	<50	NS-FP	<25	NS-FP	<25	<400	<10	<2	<5	<50	<2	<400	<100	<5	<2	<200	<2	<2	<2	<2	<100										
	Sep-03	NA	NA	NA	NS-NW	NS-FP	NA	NS-FP	<25	NS-FP	<25	<400	<5	<2	<5	<50	<2	<400	<100	<5	<2	<200	<2	<2	<2	<2	<100										
	Dec-03	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<25	NS-FP	<25	<400	<5	<2	<5	<50	<2	<400	<100	<5	<2	<200	<2	<2	<2	<2	<100										
	Mar-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<25	NS-FP	<25	<400	<5	<2	<5	<50	<2	<400	<100	<5	<2	<200	<2	<2	<2	<2	<100										
	Jun-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<25	NS-FP	<25	<400	<5	<2	<5	<50	<2	<400	<100	<5	<2	<200	<2	<2	<2	<2	<100										
	Sep-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<25	NS-FP	<25	<400	<5	<2	<5	<50	<2	<400	<100	<5	<2	<200	<2	<2	<2	<2	<100										
	Dec-04	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<25	NS-FP	<25	<400	<5	<2	<5	<50	<2	<400	<100	<5	<2	<200	<2	<2	<2	<2	<100										
	Mar-05	NA	NA	NA	NS-NW	NS-NW	NA	NS-FP	117	NS-FP	117	<5	NS-FP	250	125	<2	<2	81	<2	NS-FP	NS-FP	<2	NS-FP	NS-FP	<2	<2	<2	<2	<100								
Toluene	Feb-04	882	2,150	5,370	3,320	2,130	134	NS-FP	NS-FP	<500	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP																	
	Nov-04	<2,500	<500	130	NS-FP	NS-FP	<500	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP										
	Oct-04	<100	<20	130	NS-NW	Table 2	100	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP										
	Feb-05	20	3.5	302	NS-FP	NS-FP	8.2	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP										
	Apr-05	24.8	<500	133	NS-FP	NS-FP	<25	NS-FP	122	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP										
	Oct-05	<200	<20	59.3	NS-FP	NS-FP	<100	NS-FP	100	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP										
	Dec-05	NA	<100	<100	NS-FP	NS-FP	<50	NS-FP	204	<1,000	NS-FP	<10	97.1	<10	420	268	8.1	534	1,240	9.7	53.1	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP										
	Mar-06	NA	24.00	411	NS-FP	NS-FP	<50	NS-FP	138	<400	NS-FP	<20	11	<50	<20	356	25	<1,000	1,480	3.6	17.8	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP										
	Jun-06	NA	258	318	NS-FP	NS-FP	<50	NS-FP	132	<400	NS-FP	<10	161	21.8	29.5	485	35.9	<400	1,480	48.6	<2	<20	4	4.1	12.3	1,920	NS-FP	NS-FP									
	Sep-06	NA	NA	NA	NS-NW	NS-NW	NA	NS-FP	131	<400	NS-FP	<10	125	145	28.3	36	273	15.1	<200	NS-FP	15.2	232	NS-NW	4.1	15.7	51	2,330	NS-FP	NS-FP								
	Dec-06	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	45	<100	NS-FP	<10	3.8	36.3	42.4	12.1	NS-FP	18	<200	3.4	133	NS-NW	Table 5														
	Mar-07	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	149	Table 2	NS-FP	<10	3.6	51.6	42	NS-FP	30.2	NS-FP	3.3	347	4	Table 5															
	Jun-07	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	129	NS-FP	<10	2.6	177	41.8	53.1	NS-FP	27.8	NS-FP	25	228	NS-NW	34.6	120	33.7	1,830	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP						
	Sep-07	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	123	NS-FP	<10	3	239	40.5	56.5	NS-FP	20.4	NS-FP	35.6	461	NS-NW	1.7	<2	3.8	NA	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP						
	Dec-07	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	57.0	NS-FP	<20	<2	58.6	18.2	38.2	NS-FP	81.1	NS-FP	27.1	NS-FP	NS-FP	52.1	75.1	88.1	NA	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP						
	Mar-08	NA	NA	NA	NS-NW	NS-NW	NA	NS-FP	<200	99.6	NS-FP	<200	5.4	58.9	23.7	87.8	83.8	117	NS-FP	NS-FP	108	NS-FP	440	82.1	340	74.1	48.8	2,840	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP			
1,1,1-Trichloroethane	Feb-04	9,370	3,470	444	36,200	116,000	90	NS-FP	NS-FP	<500	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP																
	Nov-04	<2,800	<500	.70	NS-FP	NS-FP	<500	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP									
	Oct-04	<250	<50	<128	NS-NW	Table 2	<25	NS-FP	NS-FP	<100	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP																
	Feb-05	<25	<12.5	<100	NS-FP	NS-FP	<10	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP									
	Jul-05	<250	<50	<125	NS-FP	NS-FP	<25	NS-FP	1100	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP									
	Oct-05	<250	<50	<50	NS-FP	NS-FP	<25	NS-FP	62	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP									
	Dec-05	NA	<250	NS-FP	NS-FP	<125	NS-FP	32.3	13,800	52.9	21	<5	230	450	<250	6	1,150	21,500	65	<25	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP									
	Mar-06	NA	<1,000	450	NS-FP	NS-FP	<25	NS-FP	35	12,300	<500	14	1.4	77.5	450	33.5	9.5	365	37,800	15	14	NS-FP															
	Jun-06	NA	180	2400	NS-FP	NS-FP	<50	NS-FP	18.6	8,430	<400	19	<2	3.4	13.7	42.6	<2	280	51,200	25	70	<20	<2	<2	<2	<2	<2	1,250									
	Sep-06	NA	NA	NA	NS-NW	NS-FP	NA	NS-FP	<20	4,510	<50	8.7	<2	8.9	8.4	450	6	420	NS-FP	8.6	150	NS-NW	<2	<2	<2	<2	<2	1,790	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP			
	Dec-06	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	<2	7,450	852	10.7	<2	44	<5	NS-FP	22	1,130	NS-FP	61.7	132	NS-NW	<2	<2	<2	<2	<2	NS-NW	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP			
	Mar-07	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	11.1	Table 2	170	8.3	<2	<2	7.7	NS-FP	<2	Table 2	20.9	186	<4	Table 3															
	Jun-07	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	24	NS-FP	250	2.5	<2	<2	4.5	NS-FP	7.4	NS-FP	3.4	13.6	NS-NW	3.4	<2	<2	<2	<2	<2	<2	<2	5,730	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	
	Sep-07	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	27.9	NS-FP	483	2.4	<2	<2	5.2	NS-FP	<2	NS-FP	3.2	312	NS-NW	<2	<2	<2	<2	<2	<2	<2	<2	NA	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	
	Dec-07	NA	NA	NA	NS-FP	NS-FP	NA	NS-FP	27.8	NS-FP	200	<2	<2	<2	22	NS-FP	<2	NS-FP	<2	NS-FP	<2	NS-FP	<2	<2	<2	<2	<2	<2	<2	<2	NA	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP	NS-FP
	Mar-08	NA	NA	NA</																																	

Table 4 (cont.) Detected VOCs from Groundwater Sample Results Using EPA Method 8260 (ppt)

Tables 1-4 and Figures 1-4 show the results of the sensitivity analysis.

U = User	A = Analyst	F = Feature	S = Subsystem	M = Method used for collection [Doc-Diagram, Interview, Questionnaire, etc.]
U = User	A = Analyst	F = Feature	S = Subsystem	M = Method used for collection [Doc-Diagram, Interview, Questionnaire, etc.]
U = User	A = Analyst	F = Feature	S = Subsystem	M = Method used for collection [Doc-Diagram, Interview, Questionnaire, etc.]
U = User	A = Analyst	F = Feature	S = Subsystem	M = Method used for collection [Doc-Diagram, Interview, Questionnaire, etc.]
U = User	A = Analyst	F = Feature	S = Subsystem	M = Method used for collection [Doc-Diagram, Interview, Questionnaire, etc.]

**Table 5: Detected VOCs from Diffusion Bag Groundwater Samples using EPA Method 8260 ( $\mu\text{g/L}$ )**

Screened Interval (feet bg)	Date	Depth	MW-23	MW-24	MW-25
			71-81	67-77	71-81
DTW (ft)	15-Dec-03		42.65	45.69	47.35
	30-Mar-04		43.25	46.41	48.03
<b>VOCs</b>					
Acetone	15-Dec-03	1.5'	<25	<25	<25
	15-Dec-03	7.5'	<25	<25	<25
	30-Mar-04	2.5'	<25	<25	<25
	30-Mar-04	7.5'	<25	<25	<25
Benzene	15-Dec-03	1.5'	<1	<1	<1
	15-Dec-03	7.5'	<1	<1	<1
	30-Mar-04	2.5'	<1	<1	<1
	30-Mar-04	7.5'	<1	<1	<1
2-Butanone (MEK)	15-Dec-03	1.5'	<25	<25	<25
	15-Dec-03	7.5'	<25	<25	<25
	30-Mar-04	2.5'	<25	<25	<25
	30-Mar-04	7.5'	<25	<25	<25
Chloroethane	15-Dec-03	1.5'	<2	<2	<2
	15-Dec-03	7.5'	<2	<2	<2
	30-Mar-04	2.5'	<2	<2	<2
	30-Mar-04	7.5'	<2	<2	<2
1,1-Dichloroethane	15-Dec-03	1.5'	<2	<2	<2
	15-Dec-03	7.5'	<2	<2	<2
	30-Mar-04	2.5'	<2	<2	<2
	30-Mar-04	7.5'	<2	<2	<2
1,2-Dichloroethane	15-Dec-03	1.5'	<2	<2	<2
	15-Dec-03	7.5'	<2	<2	<2
	30-Mar-04	2.5'	<2	<2	<2
	30-Mar-04	7.5'	<2	<2	<2
1,1-Dichloroethene	15-Dec-03	1.5'	6	14.6	7.4
	15-Dec-03	7.5'	6.1	<2	6.2
	30-Mar-04	2.5'	4.4	7.6	7.4
	30-Mar-04	7.5'	4.2	6.6	6.2
cis 1,2-Dichloroethene	15-Dec-03	1.5'	2.4	8.8	3.4
	15-Dec-03	7.5'	<2	5.7	<2
	30-Mar-04	2.5'	<2	11.7	<2
	30-Mar-04	7.5'	<2	11.3	<2

**Table 5: Detected VOCs from Diffusion Bag Groundwater Samples using EPA Method 8260 (µg/L)**

VOCs	Date	Depth	MW-23	MW-24	MW-25
trans 1,2-Dichloroethene	15-Dec-03	1.5'	<2	<2	<2
	15-Dec-03	7.5'	<2	<2	<2
	30-Mar-04	2.5'	<2	<2	<2
	30-Mar-04	7.5'	<2	<2	<2
1,4 Dioxane	15-Dec-03	1.5'	<50	<50	<50
	15-Dec-03	7.5'	<50	<50	<50
	30-Mar-04	2.5'	<50	<50	<50
	30-Mar-04	7.5'	<50	<50	<50
Ethylbenzene	15-Dec-03	1.5'	<1	<1	<1
	15-Dec-03	7.5'	<1	<1	<1
	30-Mar-04	2.5'	<1	<1	<1
	30-Mar-04	7.5'	<1	<1	<1
Methylene Chloride	15-Dec-03	1.5'	<2	<2	<2
	15-Dec-03	7.5'	<2	<2	<2
	30-Mar-04	2.5'	<2	<2	<2
	30-Mar-04	7.5'	<2	<2	<2
4-Methyl-2-pentanone	15-Dec-03	1.5'	<25	<25	<25
	15-Dec-03	7.5'	<25	<25	<25
	30-Mar-04	2.5'	<25	<25	<25
	30-Mar-04	7.5'	<25	<25	<25
Naphthalene	15-Dec-03	1.5'	<2	<2	<2
	15-Dec-03	7.5'	<2	<2	<2
	30-Mar-04	2.5'	<2	<2	<2
	30-Mar-04	7.5'	<2	<2	<2
n-Propylbenzene	15-Dec-03	1.5'	<2	<2	<2
	15-Dec-03	7.5'	<2	<2	<2
	30-Mar-04	2.5'	<2	<2	<2
	30-Mar-04	7.5'	<2	<2	<2
Tetrachloroethene	15-Dec-03	1.5'	30.6	75.4	37.1
	15-Dec-03	7.5'	14.8	24.3	37.2
	30-Mar-04	2.5'	38.2	225	30.3
	30-Mar-04	7.5'	37.7	263	24.9

**Table 5: Detected VOCs from Diffusion Bag Groundwater Samples using EPA Method 8260 (µg/L)**

VOCs	Date	Depth	MW-23	MW-24	MW-25
1,1,1-Trichloroethane	15-Dec-03	1.5'	3.2	2.3	<2
	15-Dec-03	7.5'	2.6	<2	<2
	30-Mar-04	2.5'	<2	<2	<2
	30-Mar-04	7.5'	<2	<2	<2
Trichloroethene	15-Dec-03	1.5'	11.3	51.4	38.5
	15-Dec-03	7.5'	7.9	49.3	39.4
	30-Mar-04	2.5'	14.2	74.5	34.9
	30-Mar-04	7.5'	14.7	67.1	18.6
1,2,4-Trimethylbenzene	15-Dec-03	1.5'	<2	<2	<2
	15-Dec-03	7.5'	<2	<2	<2
	30-Mar-04	2.5'	<2	<2	<2
	30-Mar-04	7.5'	<2	<2	<2
1,3,5-Trimethylbenzene	15-Dec-03	1.5'	<2	<2	<2
	15-Dec-03	7.5'	<2	<2	<2
	30-Mar-04	2.5'	<2	<2	<2
	30-Mar-04	7.5'	<2	<2	<2
Toluene	15-Dec-03	1.5'	<1	<1	<1
	15-Dec-03	7.5'	<1	<1	<1
	30-Mar-04	2.5'	<1	<1	<1
	30-Mar-04	7.5'	<1	<1	<1
Vinyl Chloride	15-Dec-03	1.5'	<2	<2	<2
	15-Dec-03	7.5'	<2	<2	<2
	30-Mar-04	2.5'	<2	<2	<2
	30-Mar-04	7.5'	<2	<2	<2
Xylenes	15-Dec-03	1.5'	<1	<1	<1
	15-Dec-03	7.5'	<1	<1	<1
	30-Mar-04	2.5'	<1	<1	<1
	30-Mar-04	7.5'	<1	<1	<1

DTW= Depth to Water.

Depth= Depth above well bottom.

Blue= Chemicals stored on-site.

Red= Transformation compounds.

Table 6. Results for EPA Methods 376.1, 325.3, 310.1, 352.1, 375.4, 7380, 7460, 160.1, Colorimetry and Standard Method 4500 (mg/L)										
Compound	Date	First Water Wells			Upper A1 Zone Wells					
		MW-9	MW-11	MW-12	MW-13	MW-14	MW-15	MW-17	MW-20	MW-21
<b>Dissolved Organic Carbon</b>	Dec-03	12	100	3	1.6	2.9	2.4	0.9	2.2	3.4
	Mar-04	8.6	240	3.1	1.3	2.4	5.6	0.6	1	3.3
	Jun-04	7.2	84	3.2	3.1	2.1	2.3	<1	1.5	1.4
	Sep-04	4.3	48	2.1	0.9	2.7	5.9	0.6	3.4	5.1
	Dec-04	4.5	26	2.9	1.5	1.7	2.4	0.9	1.6	NS-FP
	Mar-05	15	545	2.2	1.7	2.1	1	2	2.8	NS-FP
<b>Total Organic Carbon</b>	Dec-03	13	105	3.7	1.9	3.1	2.6	1.2	2.6	3.7
	Mar-04	9.6	270	3.4	1.5	3.1	6.5	1	1.1	3.7
	Jun-04	7.9	94	3.5	3.4	2.4	2.5	1.2	1.7	1.7
	Sep-04	4.6	50	2.5	1	2.9	6.1	0.9	3.7	5.4
	Dec-04	5.1	34	3.1	1.6	2.4	2.8	1.6	2	NS-FP
	Mar-05	16	595	2.3	1.7	2.3	4.7	2.3	3.4	NS-FP
<b>TDS</b>	Jun-03	1,640	2,250	839	1,200	1,450	1,830	1,400	1,280	1,250
	Sep-03	1,600	1,935	735	1,185	1,205	1,195	1,675	1,235	1,296
	Dec-03	1,250	1,690	730	1,160	1,140	1,260	1,170	1,200	1,110
	Mar-04	2,620	1,660	1,570	1,210	855	873	1,310	2,020	1,080
	Jun-04	1,760	1,590	721	1,290	1,280	1,230	1,450	1,250	1,180
	Sep-04	1,700	1,370	578	1,190	1,170	1,240	1,080	1,300	1,180
	Dec-04	1,510	809	479	946	959	1,850	1,850	1,790	NS-FP
	Mar-05	1,650	2,170	551	988	1,140	1,030	1,210	934	NS-FP
<b>Total Alkalinity</b>	Jun-03	525	960	290	430	433	455	460	425	472
	Sep-03	545	955	408	473	370	448	475	433	460
	Dec-03	540	912	340	435	350	465	430	479	530
	Mar-04	485	766	498	452	298	458	407	449	542
	Jun-04	430	696	505	435	373	456	433	438	440
	Sep-04	275	650	375	373	288	455	330	415	548
	Dec-04	370	695	455	443	401	445	430	443	NS-FP
	Mar-05	568	885	385	365	395	520	433	353	NS-FP
<b>Carbonate/bicarbonate</b>	Jun-03	612	1,152	348	516	519	546	552	510	567
	Sep-03	654	1,176	489	507	444	507	570	519	552
	Dec-03	324	547	204	261	210	279	258	287	318
	Mar-04	582	919	598	542	351	550	488	539	650
	Jun-04	262	424	308	265	228	278	264	267	268
	Sep-04	168	397	229	227	175	278	201	253	334
	Dec-04	171	177	61	116	244	271	262	273	NS-FP
	Mar-05	346	540	235	223	241	317	264	215	NS-FP

**Table 6. (Continued) Results for EPA Methods 376.1, 325.3, 310.1, 352.1, 375.4, 7380, 7460,  
160.1, Colorimetry and Standard Method 4500 (mg/L)**

Compound	Date	First Water Wells			Upper A1 Zone Wells					
		MW-9	MW-11	MW-12	MW-13	MW-14	MW-15	MW-17	MW-20	MW-21
<b>Chloride</b>	Jun-03	241	425	70.9	101	92.2	95	96.4	87.9	87.9
	Sep-03	241	383	57	99	142	106	170	92	142
	Dec-03	238	344	74.4	106	160	113	106	99.3	135
	Mar-04	221	441	76.2	92.6	92.6	104	95.3	123	158
	Jun-04	198	332	78	119	122	102	106	109	116
	Sep-04	132	334	54.5	123	197	129	102	91.9	129
	Dec-04	152	158	54.5	103	98	113	98	112	NS-FP
	Mar-05	253	384	54.5	92.6	123	169	264	215	NS-FP
<b>Sulfide</b>	Jun-03	<0.02	3.68	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Sep-03	<0.05	2.56	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Dec-03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Mar-04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Jun-04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Sep-04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Dec-04	<0.02	0.16	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	NS-FP
	Mar-05	<0.05	0.96	<0.05	<0.05	<0.05	0.48	<0.05	<0.05	NS-FP
<b>Sulfate</b>	Jun-03	264	7.9	108	214	182	279	206	176	182
	Sep-03	250	26	85	230	202	285	215	215	230
	Dec-03	783	16	47	533	399	287	387	501	287
	Mar-04	595	<1	27.6	262	<1	<1	335	250	<1
	Jun-04	707	3.49	42	143	603	735	164	81.4	518
	Sep-04	490	<1	36.5	114	278	95	319	367	192
	Dec-04	454	<1	28.1	162	112	140	120	195	NS-FP
	Mar-05	141	<1	32.2	84.4	121	40.4	110	36.6	NS-FP
<b>Nitrate</b>	Jun-03	16.4	8.81	<0.01	27.8	25.1	29.7	27.8	24.2	23.8
	Sep-03	0.138	<0.01	<0.01	0.027	0.012	0.029	<0.01	0.17	0.019
	Dec-03	25.5	3.96	1.16	17.4	20.9	25.2	20.1	21.4	22.8
	Mar-04	22.5	12.7	0.46	19.6	24.1	17.1	18	28.7	20
	Jun-04	29	8.18	1.24	18	27	32	28.7	25.6	24
	Sep-04	30.8	8.78	2.81	27.6	20.3	27	23.2	22.1	8.47
	Dec-04	12.7	5.05	2.97	14.2	21.6	20.4	17.8	16.2	NS-FP
	Mar-05	11.6	9.57	<0.01	11.9	17.7	19.2	11.9	20.6	NS-FP

**Table 6. (Continued) Results for EPA Methods 376.1, 325.3, 310.1, 352.1, 375.4, 7380, 7460, 160.1, Colorimetry and Standard Method 4500 (mg/L)**

<b>Compound</b>	<b>Date</b>	<b>First Water Wells</b>			<b>Upper A1 Zone Wells</b>					
		<b>MW-9</b>	<b>MW-11</b>	<b>MW-12</b>	<b>MW-13</b>	<b>MW-14</b>	<b>MW-15</b>	<b>MW-17</b>	<b>MW-20</b>	<b>MW-21</b>
<b>Total Iron</b>	Jun-03	<0.1	10.7	0.16	0.14	<0.1	0.2	0.43	0.22	<0.1
	Sep-03	<0.05	18.7	0.41	<0.05	<0.05	<0.05	0.26	<0.05	<0.05
	Dec-03	0.36	30.6	3.65	0.19	0.14	0.38	0.36	0.24	1.2
	Mar-04	0.15	10.5	4.14	<0.1	<0.1	<0.1	<0.1	0.62	<0.1
	Jun-04	<0.1	5.6	<0.1	0.12	0.2	0.2	0.15	<0.1	0.2
	Sep-04	0.12	5.1	<0.1	<0.1	<0.1	0.13	<0.1	<0.1	<0.1
	Dec-04	<0.1	1.65	0.36	0.45	0.4	0.25	0.17	0.13	NS-FP
	Mar-05	<0.1	1.87	0.25	<0.1	<0.1	0.11	<0.1	<0.1	NS-FP
<b>Ferrous Iron</b>	Jun-03	<0.05	0.49	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Sep-03	<0.05	9.98	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Dec-03	0.15	2.32	0.73	0.16	0.21	0.21	0.22	0.14	0.17
	Mar-04	<0.05	2.62	2.25	<0.05	0.31	0.57	<0.05	0.1	0.86
	Jun-04	<0.05	2.42	0.15	<0.05	0.24	0.17	<0.05	<0.05	0.48
	Sep-04	<0.05	1.46	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Dec-04	<0.05	<0.05	0.11	0.19	0.08	0.23	0.07	<0.05	NS-FP
	Mar-05	<0.05	<0.05	0.25	<0.05	<0.05	0.13	<0.05	<0.05	NS-FP
<b>Manganese</b>	Jun-03	<0.1	6.7	1.6	<0.1	<0.1	0.4	<0.1	<0.1	0.43
	Sep-03	0.07	12.5	2.49	0.66	0.42	0.4	<0.05	0.12	0.64
	Dec-03	0.15	13.5	1.47	0.22	1.02	1.14	0.23	0.12	1.96
	Mar-04	0.11	4.71	1.12	0.13	0.15	1.11	0.09	0.14	1.78
	Jun-04	0.2	6.6	0.9	<0.05	0.2	0.4	<0.05	<0.05	0.1
	Sep-04	0.54	9.04	1.12	0.12	0.37	1.49	0.08	0.09	1.79
	Dec-04	0.12	5.19	1.25	<0.05	0.09	0.76	<0.05	<0.05	NS-FP
	Mar-05	0.49	15	2.52	<0.05	<0.05	3.19	<0.05	0.33	NS-FP
<b>Ethene</b>	Mar-04	22.7	1,001	176	<5	255	<5	<5	<5	1,080
	Jun-04	28.5	2,120	174	<5	<5	15.5	<5	<5	<5
	Sep-04	30	4,620	46	<5	<5	<5	<5	<5	49
	Dec-04	10.5	2,580	27	<5	<5	25.5	<5	<5	NS-FP
	Mar-05	32	2,011	5	<5	<5	31.5	<5	<5	NS-FP

## **APPENDICES**

**ANCHEM0798**

Recycled  Stock # Blakley-6-S

A

ANCHEM0799

# WELL GAUGING DATA

Project # D30311-MP-1 Date 3-11-05 Client Biskley Environmental

Site Angeles Chemical Company 8915 Stevens Ave

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	
MW-4	4					26.43	26.60	TOC	
MW-6	4					29.90	30.28		
MW-8	4					34.00	40.440		
MW-9	4					37.82	46.00		
MW-10	4		33.40	0.01		33.41			
MW-11	2					34.66	39.85		
MW-12	2					33.67	45.92		
MW-13	2					46.34	62.40		
MW-14	2					46.50	62.30		
MW-15	2					47.98	64.50		
MW-16	2					36.27	45.36		
MW-17	2					45.68	66.00		
MW-18	2		29.17	0.13		29.30			
MW-19	2		35.53	0.35		35.88			
MW-20	2					45.33	67.30		
MW-21	2		46.84	0.01		46.85			
MW-22	2					31.55	40.13		ANCHEM0800

## WELL GAUGING DATA

Project # 050311-me-1

Page 1

3-11-05

Client Bickley Environmental

Site Angels Chemical Company 8915 Sorenson Ave.

ANICHEM0801

# WELL MONITORING DATA SHEET

Project #:	050511-MP-1	Site:	Angeles Chemical Co.
Sampler:	JR	Date:	3/11/05
Well I.D.:	MW-8	Well Diameter:	2 3 4 6 8
Total Well Depth (TD):	46.66	Depth to Water (DTW):	34.00
Depth to Free Product:		Thickness of Free Product (feet):	
Referenced to:	KYD Grade	Flow Cell Type	YSI 556 MPS
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 35.33			

Purge Method:  Bailer  Disposable Bailer  Positive Air Displacement  2" Rediflo pump  Extraction Pump  Other 2" Grundfos  Sampling Method:  Bailer  Disposable Bailer  Extraction Port  Dedicated Tubing

Flow Rate = 21.0 gpm

$$\frac{4.3}{1 \text{ Case Volume}} (\text{Gals.}) \times \frac{3}{\text{Specified Volumes}} = \frac{12.9}{\text{Calculated Volume}} \text{ Gals.}$$

Well Diameter	Multiplexer	Well Diameter	Multiplexer
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	Observations
1414	74.77	6.78	2074	19	0.04	-280.9	4.5	odor
1419	74.72	6.80	1991	12	0.03	-312.2	9.0	"
1424	75.32	6.55	3398	71	0.06	-302.9	13.5	"
			well dewatered @	14 gals				
1515	73.37	6.85	1840	22	0.47	-182.4	—	odor

Did well dewater?  Yes  No Gallons actually evacuated: 14

Sampling Date: 3/11/05 Sampling Time: 1515 Depth to Water: 35.15

Sample I.D.: MW-8

Laboratory: STS

Analyzed for:

Other:

EB I.D. (if applicable): EB-1 @ 1405 Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558**

### WELL MONITORING DATA SHEET

Project #:	030311-mo-1			Site:	Angeles Chemical Co.				
Sampler:	mp			Date:	3-11-05				
Well I.D.:	vwu-9			Well Diameter:	2	3	4	6	8
Total Well Depth (TD):	41.00			Depth to Water (DTW):	34.82				
Depth to Free Product:				Thickness of Free Product (feet):					
Referenced to:	VW			Grade	Flow Cell Type VSI 450 mds				
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:					37.05				

Purge Method:	Bailer	Water	Sampling Method:	Bailer	
Disposable Bailer	✓ 2" Rediflo pump	Extraction Pump	Disposable Bailer		
Positive Air Displacement	Extraction Port	Dedicated Tubing			
Electric Submersible	Other	Other:			
Flow Rate=	1 g.p.m.	Well Diameter Multiplier	Well Diameter Multiplier		
1 Case Volume	7.2 (Gals.) X 3 = 21.60 Gals.	1"	0.04	4"	0.65
	Specified Volumes	2"	0.16	6"	1.47
	Calculated Volume	3"	0.37	Other	$\text{radius}^2 \times 0.163$

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	Observations
0923	23.21°C	7.4	4211	7	0.12	45.5	3	Started @ 0920
								* Well Dewatered @ 13 gallons *
1450	72.99°F	6.8	2794	47	1.08	-165.8	—	

Did well dewater?	Yes	No	Gallons actually evacuated:	13			
Sampling Date:	3-11-05		Sampling Time:	1450	Depth to Water:	38.10	CSite dependent
Sample I.D.:	vwu-9		Laboratory:	STS			
Analyzed for:	See Scope		Other:				
EB I.D. (if applicable):	@	Time	Duplicate I.D. (if applicable):				
FB I.D. (if applicable):	@	Time	Analyzed for:				
D.O. (if req'd):	Pre-purge:		mV/L	Post-purge:		mg/L	
O.R.P. (if req'd):	Pre-purge:		mV	Post-purge:		mV	

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558**

ANCHEM0803

### WELL MONITORING DATA SHEET

Project #:	050311-MP-1			Site:	Angeles Chemical Co.				
Sampler:	JR			Date:	3/11/05				
Well I.D.:	MW-11			Well Diameter:	2	3	4	6	8
Total Well Depth (TD):	39.85			Depth to Water (DTW):	34.66				
Depth to Free Product:				Thickness of Free Product (feet):					
Referenced to:	PVC	Grade		Flow Cell Type	YSI 556 MAS				
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:					35.69				

Purge Method:  Bailer  Waterra  Sampling Method:  Bailer  
 Disposable Bailer  2" Rediflo pump   Disposable Bailer  
 Positive Air Displacement  Extraction Pump  Extraction Port  
 Electric Submersible  Other 2" Gravelled  Dedicated Tubing

Flow Rate: ~ 0.5 gpm

1.8 (Gals.) X 3 = 2.4 Gals.  
1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or $\mu\text{S}$ )	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	Observations
1312	75.05	6.46	3270	31	0.09	-205.6	1.0	odor
1314	75.47	6.44	4086	18	0.64	-281.9	2.0	"
1316	76.26	6.47	3857	244	0.09	-264.2	3.0	"

Did well dewater? Yes  No Gallons actually evacuated: 3.0

Sampling Date: 3/11/05 Sampling Time: 1330 Depth to Water: 35.69

Sample I.D.: MW-11 Laboratory:

Analyzed for: Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable): MW-1 C 1346

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	$\text{mg/L}$	Post-purge:	$\text{mg/L}$
------------------	------------	---------------	-------------	---------------

O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV
--------------------	------------	----	-------------	----

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558**

### WELL MONITORING DATA SHEET

Project #:	050311-MP-1	Site:	Angeles Chemical Co.
Sampler:	mp	Date:	3-11-05
Well I.D.:	MW-12	Well Diameter:	∅ 3 4 6 8
Total Well Depth (TD):	45.92	Depth to Water (DTW):	33.67
Depth to Free Product:		Thickness of Free Product (feet):	
Referenced to:	RVO Grade	Flow Cell Type	NSI 650 mds
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 36.12			

Purge Method:  Bailer  Water  Sampling Method:  Bailer  
 Disposable Bailer  2" Rodillo pump  Disposable Bailer  
 Positive Air Displacement  Extraction Pump  Extraction Port  
 Electric Submersible  Other  Dedicated Tubing

Flow Rate= 1 g.p.m

$$\frac{1.9 \text{ (Gals.)}}{\text{1 Case Volume}} \times \frac{3}{\text{Specified Volumes}} = \frac{5.8}{\text{Calculated Volume}}$$

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	Observations
1128	23.45	8.08	1902	46	0.33	-83.2	2	Start dewater 1126
1130	23.46	8.25	1919	14	0.19	-108.9	4	
1132	23.50	8.34	1915	8	0.15	-130.0	6	

Did well dewater? Yes  Gallons actually evacuated: 6

Sampling Date: 3-11-05 Sampling Time: 1150 Depth to Water: 33.77

Sample I.D.: MW-12 Laboratory: STS

Analyzed for: See Scope Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	$\text{mg/L}$	Post-purge:	$\text{mg/L}$
------------------	------------	---------------	-------------	---------------

O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV
--------------------	------------	----	-------------	----

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558**

## **WELL MONITORING DATA SHEET**

WELL MONITORING DATA SHEET	
Project #:	050311-HP-1
Site:	Angeles Chemical Co.
Sampler:	JR
Date:	3/11/05
Well I.D.:	MW-13
Well Diameter:	(2) 3 4 6 8
Total Well Depth (TD):	62.40
Depth to Water (DTW):	46.36
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to:	Grade
Flow Cell Type	YSI 556 MPS
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:	
49.56	
Purge Method:	

Purge Method:	Bailer	Waterra	Sampling Method:	Bailer
Disposable Bailer	2" Rediflo pump			Disposable Bailer
Positive Air Displacement	Extraction Pump			Extraction Port
Electric Submersible	Other 2" Grundfos Pump			Dedicated Tether

Flow Rate = \_\_\_\_\_ cu / min

2.5 (Gals.) X 3 = 7.5 Gals.  
1 Case Volume      Specified Volumes      Calculated Volume

Other:			
Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Did well dewater? Yes  Gallons actually evacuated: 7,5

Sampling Date: 3/11/68 Sampling Time: 1140 Depth to Water: 46.36

Sample I.D.: MW-13 Laboratory:

Analyzed for: \_\_\_\_\_

EB ID: (if applicable):        Other:

Time      Duplicate ID. (if applicable):

FB I.D. (if applicable): Time Analyzed for

D.O. (if req'd): Pre-purge: mg./ D.L.

O.R.P. (if req'd): Pro forma

**Blaine Tech Services, Inc.** 1680 Paseo de la Vida, Suite 100 • San Juan, PR 00901 • (787) 750-1000 • Fax: (787) 750-1001

### WELL MONITORING DATA SHEET

Project #:	050311-MP /		Site:	Angeles Chemical Co.			
Sampler:	JK		Date:	3/11/05			
Well I.D.:	MW-14		Well Diameter:	3	4	6	8
Total Well Depth (TD):	62.50		Depth to Water (DTW):	46.50			
Depth to Free Product:			Thickness of Free Product (feet):				
Referenced to:	PVC	Grade	Flow Cell Type	YSI 556 MPS			
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:			49.70				

Purge Method:  Bailer       Waterra       Sampling Method:  Bailer  
 Disposable Bailer       2" Rediflo pump       Sampling Port  
 Positive Air Displacement       Extraction Pump       Disposable Bailer  
 Electric Submersible       Other 2" Gravelite       Extraction Port  
       Dedicated Tubing

Flow Rate: ~1.0 gpm

2.5 (Gals.) X 3 = 7.5 Gals.  
1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	Observations
1217	73.43	6.88	2133	>1000	3.22	-175.3	2.5	
1219	73.31	6.83	2129	36	3.54	-162.7	5.0	
1221	73.26	6.82	2122	13	3.60	-158.9	7.5	

Did well dewater? Yes  No Gallons actually evacuated: 7.5

Sampling Date: 3/11/05 Sampling Time: 1230 Depth to Water: 46.50

Sample I.D.: MW-14 Laboratory:

Analyzed for: Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558

ANCHEM0007

### WELL MONITORING DATA SHEET

Project #:	OSO311-wp-1			Site:	Angeles Chemical Co.				
Sampler:	mf			Date:	3-11-05				
Well I.D.:	MW-15			Well Diameter:	6	3	4	6	8
Total Well Depth (TD):	64.50			Depth to Water (DTW):	47.98				
Depth to Free Product:				Thickness of Free Product (feet):					
Referenced to:	PWS			Grade	Flow Cell Type YSI 450 MDS				
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:					51.28				

Purge Method:	Bailer	Waterra	Sampling Method:	Bailer		
	Disposable Bailer	2" Rediflo pump		Disposable Bailer		
	Positive Air Displacement	Extraction Pump		Extraction Port		
	Electric Submersible	Other _____		Dedicated Tubing		
Flow Rate=	1 g.p.m.		Other:			
2.6	(Gals.) X 3	= 7.3 Gals.	Well Diameter	Multiplier	Well Diameter	Multiplier
1 Case Volume	Specified Volumes	Calculated Volume	1"	0.04	4"	0.65
			2"	0.16	6"	1.47
			3"	0.37	Other	$\pi r^2 \cdot 0.163$

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	Observations
1007	23.11	7.52	3021	205	0.31	1.3	3	Initial sample
1010	23.05	7.56	2993	38	0.21	-3.4	6	
1013	23.04	7.51	2981	22	0.15	-5.2	9	

Did well dewater? Yes  Gallons actually evacuated: 9

Sampling Date: 3-11-05 Sampling Time: 1025 Depth to Water: 48.49

Sample I.D.: MW-15 Laboratory: SWS

Analyzed for: See Scope Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558**

ANACHEM 0808

### WELL MONITORING DATA SHEET

Project #:	050311-MP-1	Site:	Angeles Chemical Co.
Sampler:	mp	Date:	3-11-05
Well I.D.:	MW-11c	Well Diameter:	② 3 4 6 8
Total Well Depth (TD):	45.36	Depth to Water (DTW):	36.27
Depth to Free Product:		Thickness of Free Product (feet):	
Referenced to:	PVC	Grade	Flow Cell Type VSI w/ 650 mDS
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 38.08			

Purge Method:  Bailer  Disposable Bailer  Positive Air Displacement  Electric Submersible  Water  2" RediFlo pump  Extraction Pump  Other Sampling Method:  Bailer  Disposable Bailer  Extraction Port  Dedicated Tubing  Other

Flow Rate: 1 g.p.m.

1.4 (Gals.) X	3	= 4.2 Gals.
I Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiliser	Well Diameter	Multiliser
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	Observations
1317	24.36	7.36	1986	>1000	0.29	-127.6	2	Shallow on 1315
1319	24.81	7.24	1921	>1000	0.18	-105.3	4	
1320	25.21	7.15	1906	>1000	0.13	-101.2	5	

Did well dewater? Yes  Gallons actually evacuated: 5

Sampling Date: 3-11-05 Sampling Time: 1330 Depth to Water: 37.51

Sample I.D.: MW-11c Laboratory: STS

Analyzed for: See Scope Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	<sup>mg/L</sup>	Post-purge:	<sup>mg/L</sup>
------------------	------------	-----------------	-------------	-----------------

O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV
--------------------	------------	----	-------------	----

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558**

### WELL MONITORING DATA SHEET

Project #:	050311-MP-1		Site:	Angeles Chemical Co.				
Sampler:	GR		Date:	5/11/05				
Well I.D.:	MW-17		Well Diameter:	2	3	4	6	8
Total Well Depth (TD):	66.00		Depth to Water (DTW):	45.68				
Depth to Free Product:			Thickness of Free Product (feet):					
Referenced to:	EVD Grade		Flow Cell Type	YSI 556 MPS				
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:					49.74			

Purge Method:  Bailer  Disposable Bailer  Positive Air Displacement  Electric Submersible  Waterra  2" Rediflo pump  Extraction Pump  Other  $\geq$  2" Gravelines Sampling Method:  Bailer  Disposable Bailer  Extraction Port  Dedicated Tubing

Flow Rate: ~1.0 gpm

$3.2 \text{ (Gals.)} \times 3 = 9.6 \text{ Gals.}$   
1 Case Volume Specified Volumes Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	Observations
1023	73.81	6.84	2171	65	3.06	-125.6	3.5	
1024	73.82	6.83	2172	24	3.34	-125.0	7.0	
1030	73.71	6.83	2170	16	3.38	-124.5	10.0	

Did well dewater? Yes  Gallons actually evacuated: 10.0

Sampling Date: 5/11/05 Sampling Time: 1040 Depth to Water: 47.12

Sample I.D.: MW-17 Laboratory:

Analyzed for: Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558**

### WELL MONITORING DATA SHEET

Project #:	050511-EP-1	Site:	Angeles Chemical Co.
Sampler:	JL	Date:	3/11/05
Well I.D.:	MW-20	Well Diameter:	8 3 4 6 8
Total Well Depth (TD):	67.30	Depth to Water (DTW):	45.33
Depth to Free Product:		Thickness of Free Product (feet):	
Referenced to:	(PVC)	Grade	Flow Cell Type YSI 556
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 49.72			

Purge Method: Bailer      Waterra      Sampling Method: Bailer  
 Disposable Bailer      2" Rediflo pump      Disposable Bailer  
 Positive Air Displacement      Extraction Pump      Extraction Port  
 Electric Submersible      Other 2" Grundfos Pump      Dedicated Tubing

Flow Rate: ~1.0 gpm

3.5 (Gals.) X 3 = 10.5 Gals.  
 1 Case Volume      Specified Volumes      Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or <del>µS</del> )	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	Observations
0930	73.5	7.11	859	846	0.16	-185.0	3.5	
0933	73.55	7.41	1399	>1000	1.02	-156.8	7.0	
0936	73.44	7.11	1681	463	1.69	-134.2	10.5	
0940	73.38	7.04	1796	85	2.03	-127.1	14.0	

Did well dewater? Yes  No      Gallons actually evacuated: 14.0

Sampling Date: 3/11/05      Sampling Time: 0950      Depth to Water: 45.8

Sample I.D.: MW-20      Laboratory:

Analyzed for:      Other:

EB I.D. (if applicable): @ Time      Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time      Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558**

### WELL MONITORING DATA SHEET

Project #:	050311-mw-1			Site:	Angeles Chemical Co.				
Sampler:	me			Date:	3-11-05				
Well I.D.:	mw-22			Well Diameter:	0	3	4	6	8
Total Well Depth (TD):	40.13			Depth to Water (DTW):	31.55				
Depth to Free Product:				Thickness of Free Product (feet):					
Referenced to:	AFC	Grade		Flow Cell Type	YSI 650 mps				
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:					32.26				

Purge Method:  Bailex  
 Disposable Bailex  
 Positive Air Displacement  
 Electric Submersible

Water:  2" Rediflo pump  
 Extraction Pump  
 Other \_\_\_\_\_

Sampling Method:  Bailex  
 Disposable Bailex  
 Extraction Port  
 Dedicated Tubing  
 Other \_\_\_\_\_

Flow Rate: 1.9 gpm

$$\frac{1.3 \text{ (Gals.)}}{1 \text{ Case Volume}} \times 3 \text{ Specified Volumes} = 4.1 \text{ Gals. Calculated Volume}$$

Well Diameter	Multipier	Well Diameter	Multipier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	Observations
1059	23.88	7.24	2528	107	0.24	420	2	shallow @ 1057
				# Well Dewatered @ 2 gallons *				
1430	77.6	6.48	1980	220	—	-40		

\* Per Client's request the use of ultrameter for first set of parameters

Did well dewater?  No Gallons actually evacuated: 3

Sampling Date: 3-11-05 Sampling Time: 1430 Depth to Water: 32.10

Sample I.D.: mw-22 Laboratory: STS

Analyzed for: See Scope Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd): Pre-purge: mg/L Post-purge: mg/L

O.R.P. (if req'd): Pre-purge: mV Post-purge: mV

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558**

ANCHEM0812

### WELL MONITORING DATA SHEET

Project #:	030311-wp-1	Site:	Angeles Chemical Co.
Sampler:	me	Date:	3-11-05
Well I.D.:	MW-26	Well Diameter:	OD 3 4 6 8
Total Well Depth (TD):	39.68	Depth to Water (DTW):	33.17
Depth to Free Product:		Thickness of Free Product (feet):	
Referenced to:	(PVC)	Grade	Flow Cell Type YSI 650 mV
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 34.47			

Purge Method:	Bailer	Water	Sampling Method:	Bailer
<input checked="" type="checkbox"/> Disposable Bailer		<input checked="" type="checkbox"/> 2" Rediflo pump	<input checked="" type="checkbox"/> Disposable Bailer	
Positive Air Displacement		Extraction Pump	Extraction Port	
Electric Submersible		Other	Dedicated Tubing	
Flow Rate =				
1.0 (Gals.) X	3	= 3.0 Gals.	Well Diameter	Multiplier
1 Case Volume	Specified Volumes	Calculated Volume	1"	0.04
			2"	0.16
			3"	0.27
			Other	radius <sup>2</sup> * 0.163

Time	Temp (°F)	pH	Cond. (mS or µS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Gals. Removed	Observations
1401	27.69	8.52	29	18	19.3	635	1	
1408	27.54	8.49	22	18	19.3	635	2	
1414	23.27	6.94	3679	271	0.99	26.9	3	

Did well dewater? Yes  No Gallons actually evacuated: 3

Sampling Date: 3-11-05 Sampling Time: Sample Site Unknown 1500 Depth to Water: 36.40

Sample I.D.: MW-26 Laboratory: STS

Analyzed for: See Sample Other:

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

FB I.D. (if applicable): @ Time Analyzed for:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
------------------	------------	------	-------------	------

O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV
--------------------	------------	----	-------------	----

**Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558**

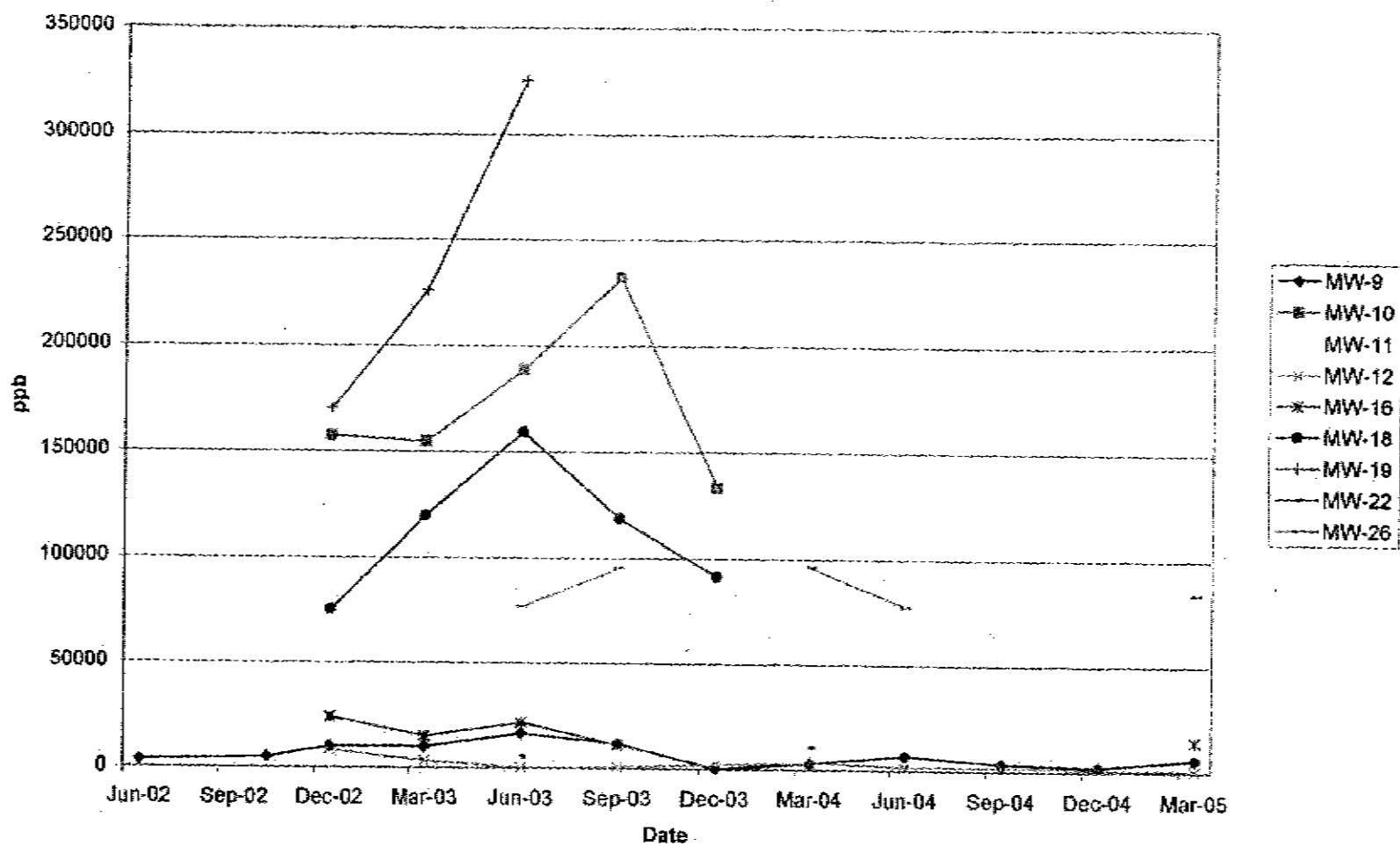
## TEST EQUIPMENT CALIBRATION LOG

## TEST EQUIPMENT CALIBRATION LOG

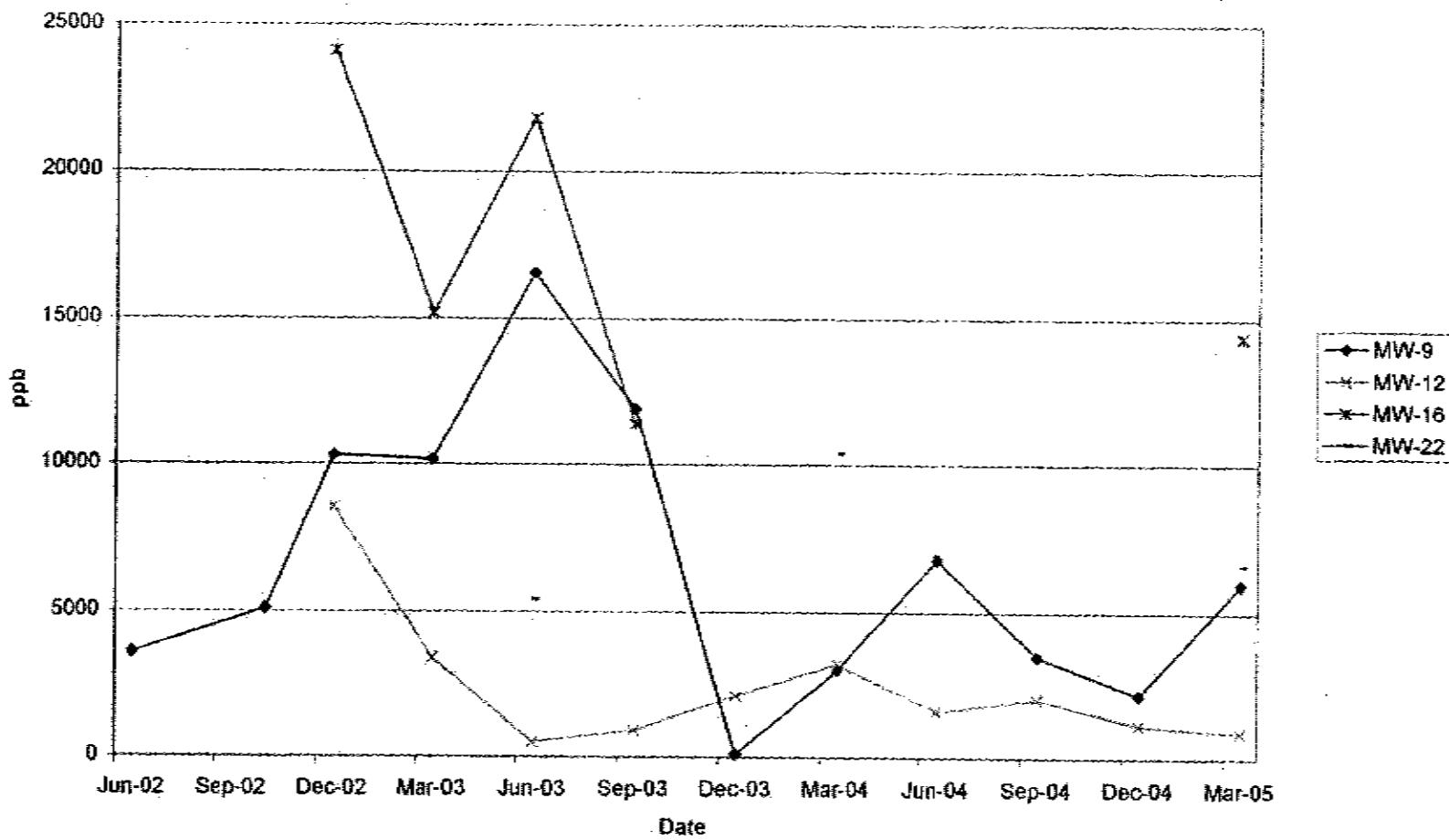
ANCHERO 15



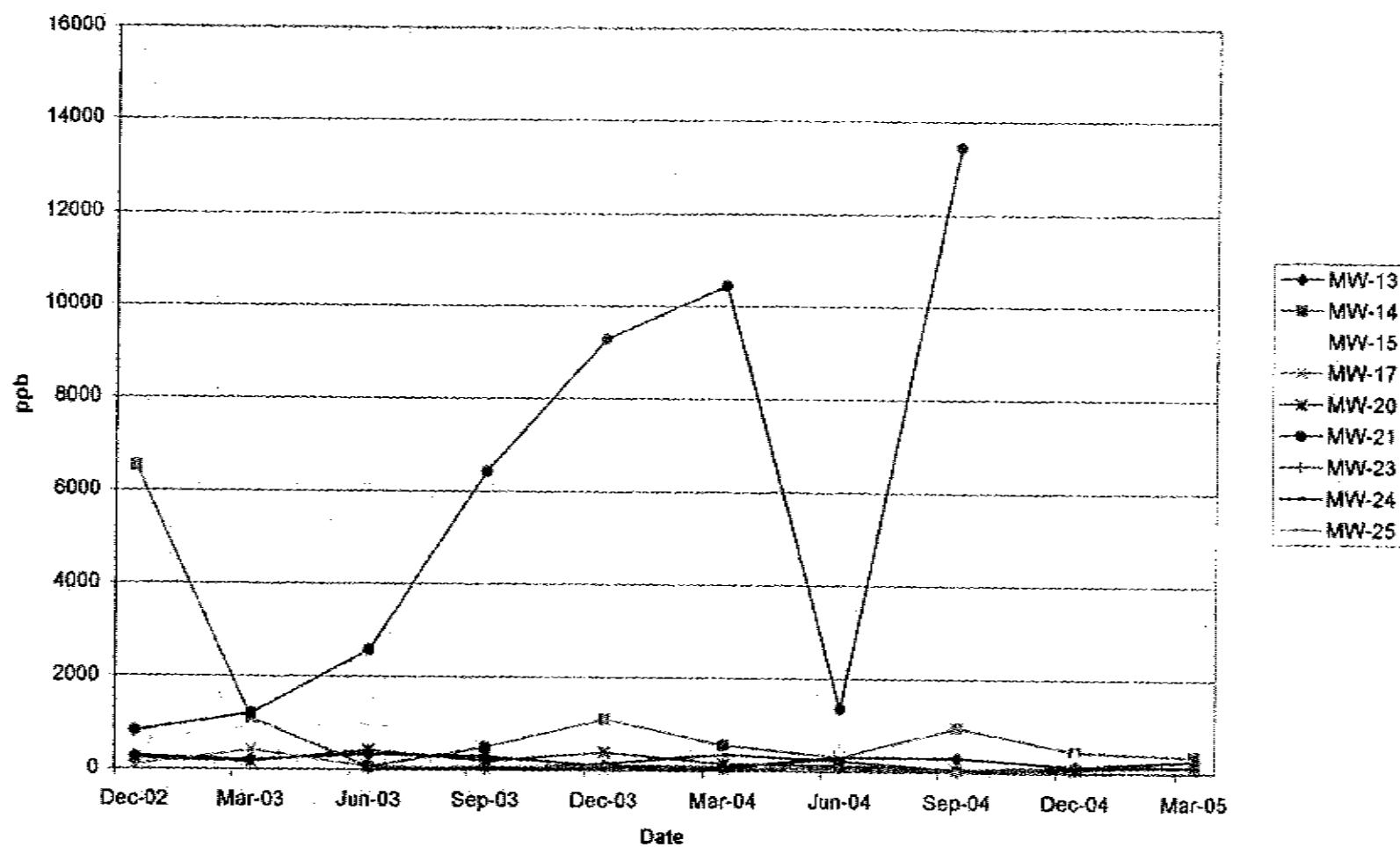
### Total Dissolved VOCs in 1st Water Wells



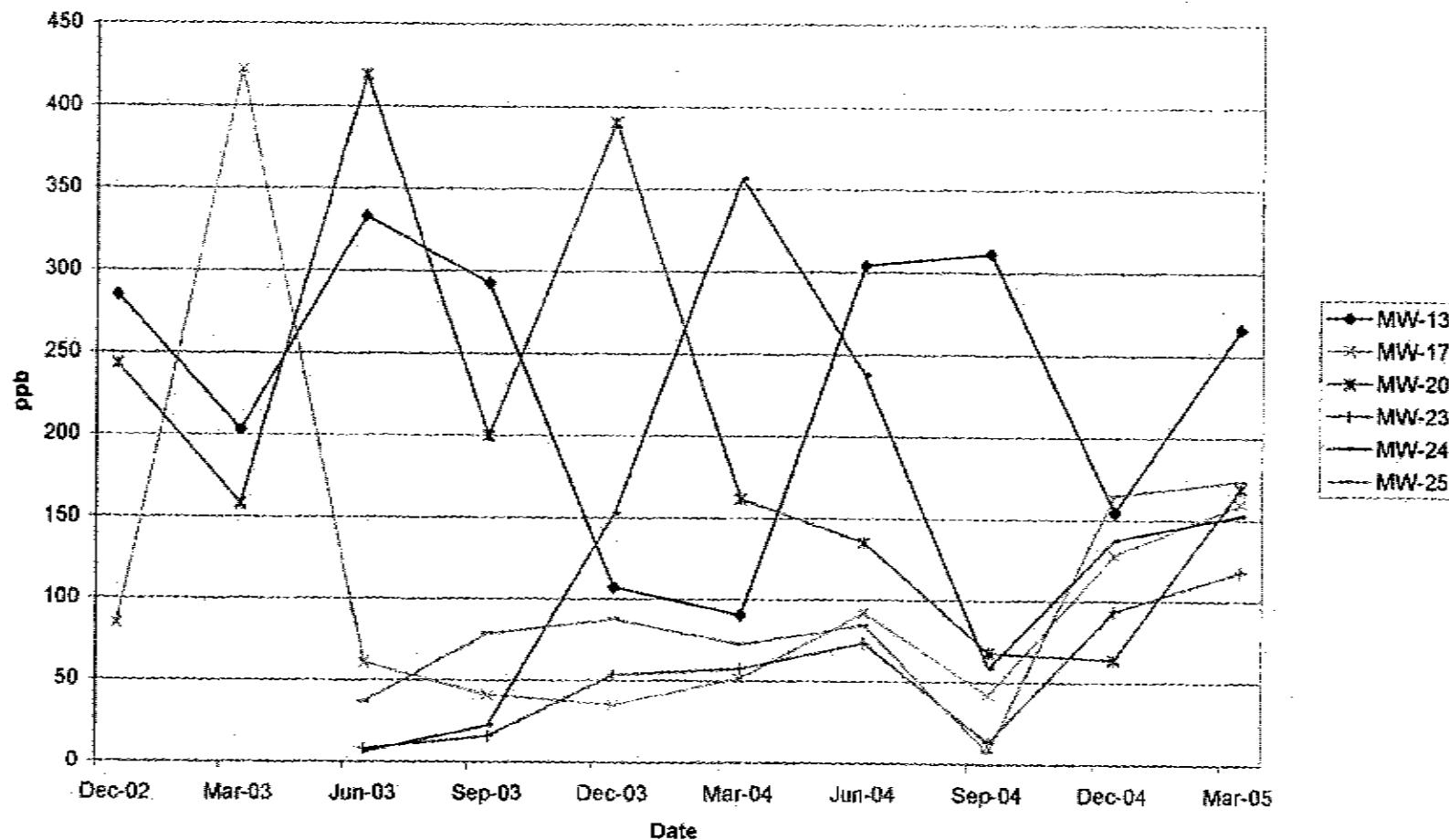
Total Dissolved VOCs in 1st Water Wells  
(excluding MW-10, MW-11, MW-18, MW-19 and MW-26)



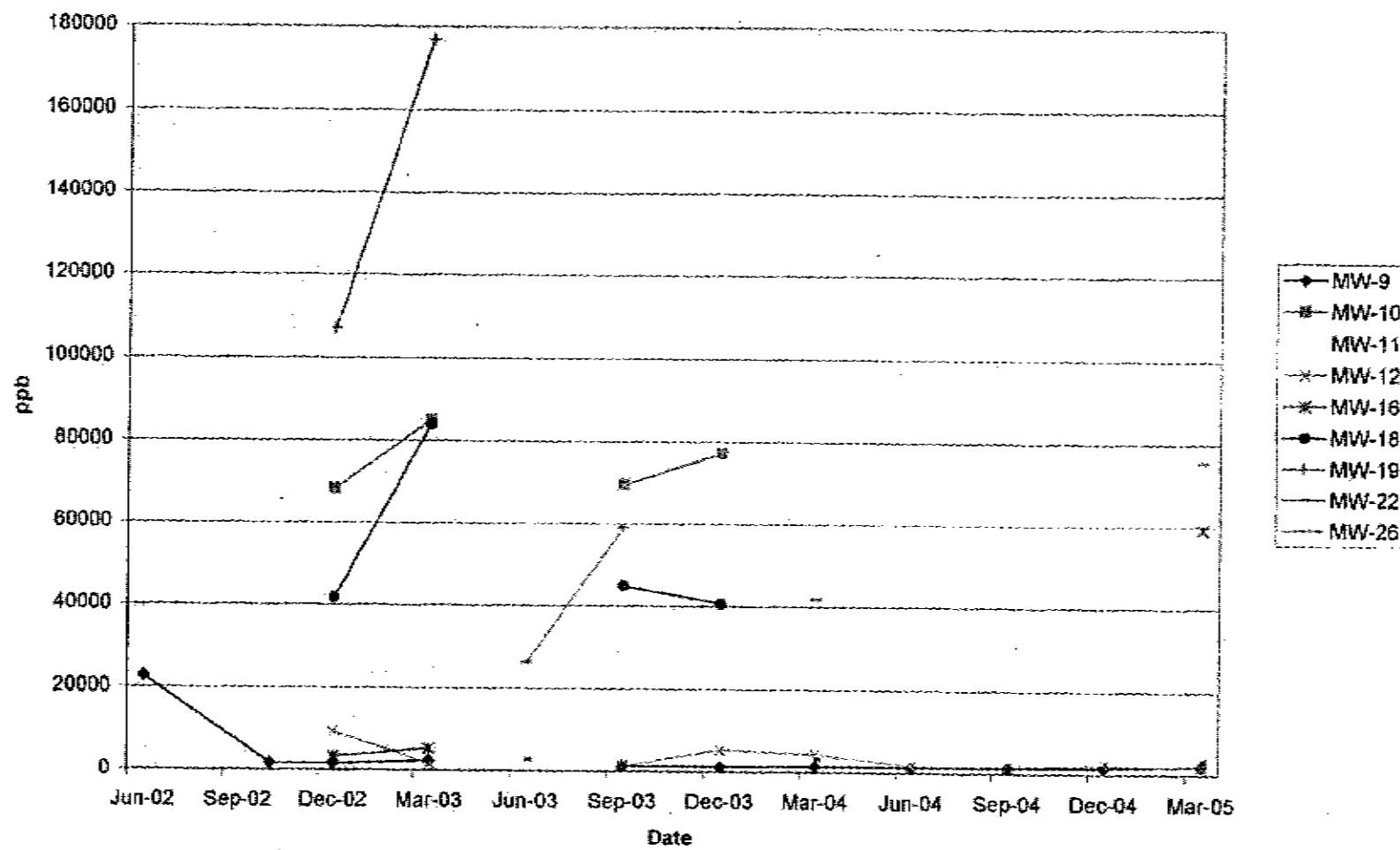
### Total Dissolved VOCs in A1 Wells



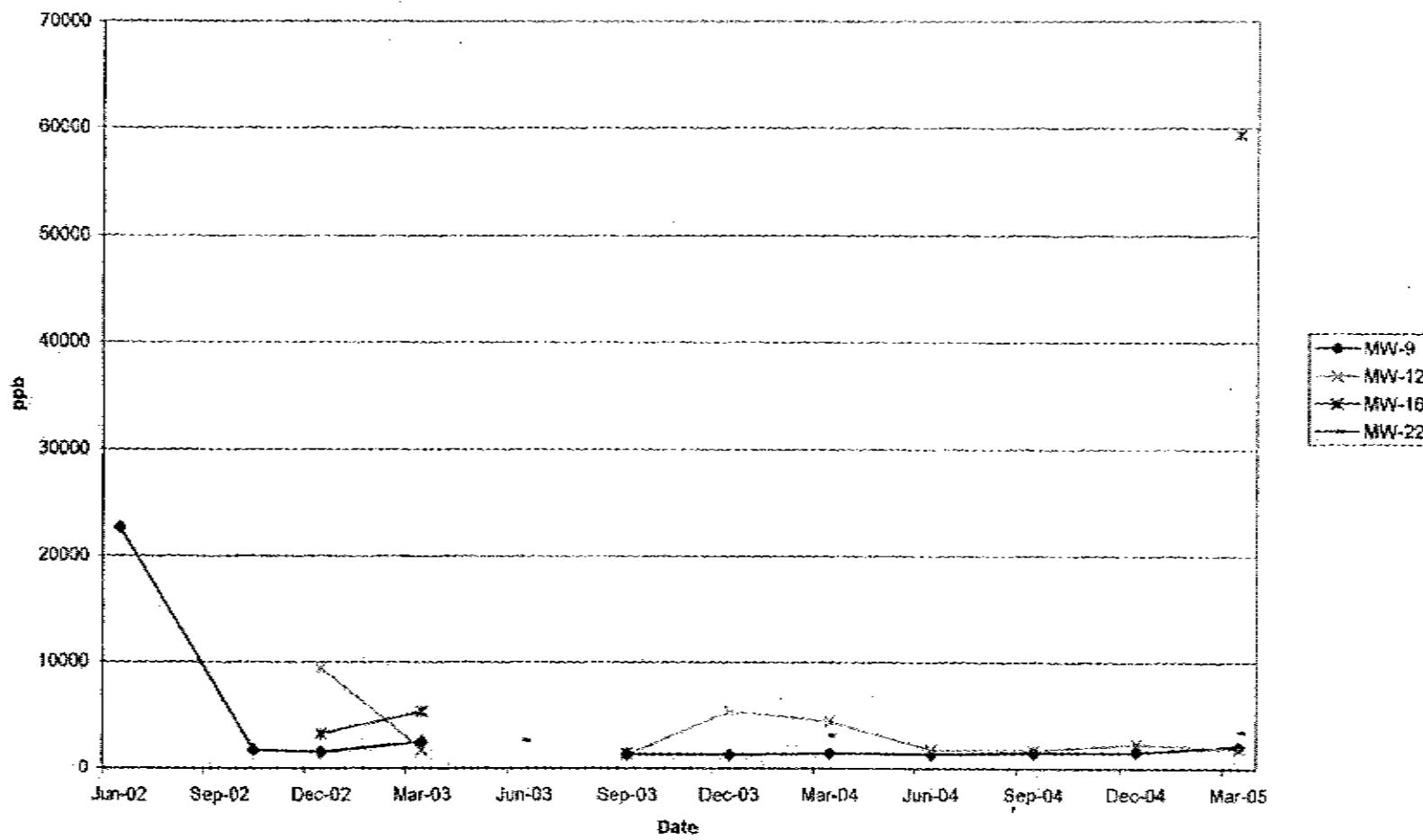
Total Dissolved VOCs in A1 Wells  
(excluding MW-14, MW-15 and MW-21 for smaller scale)



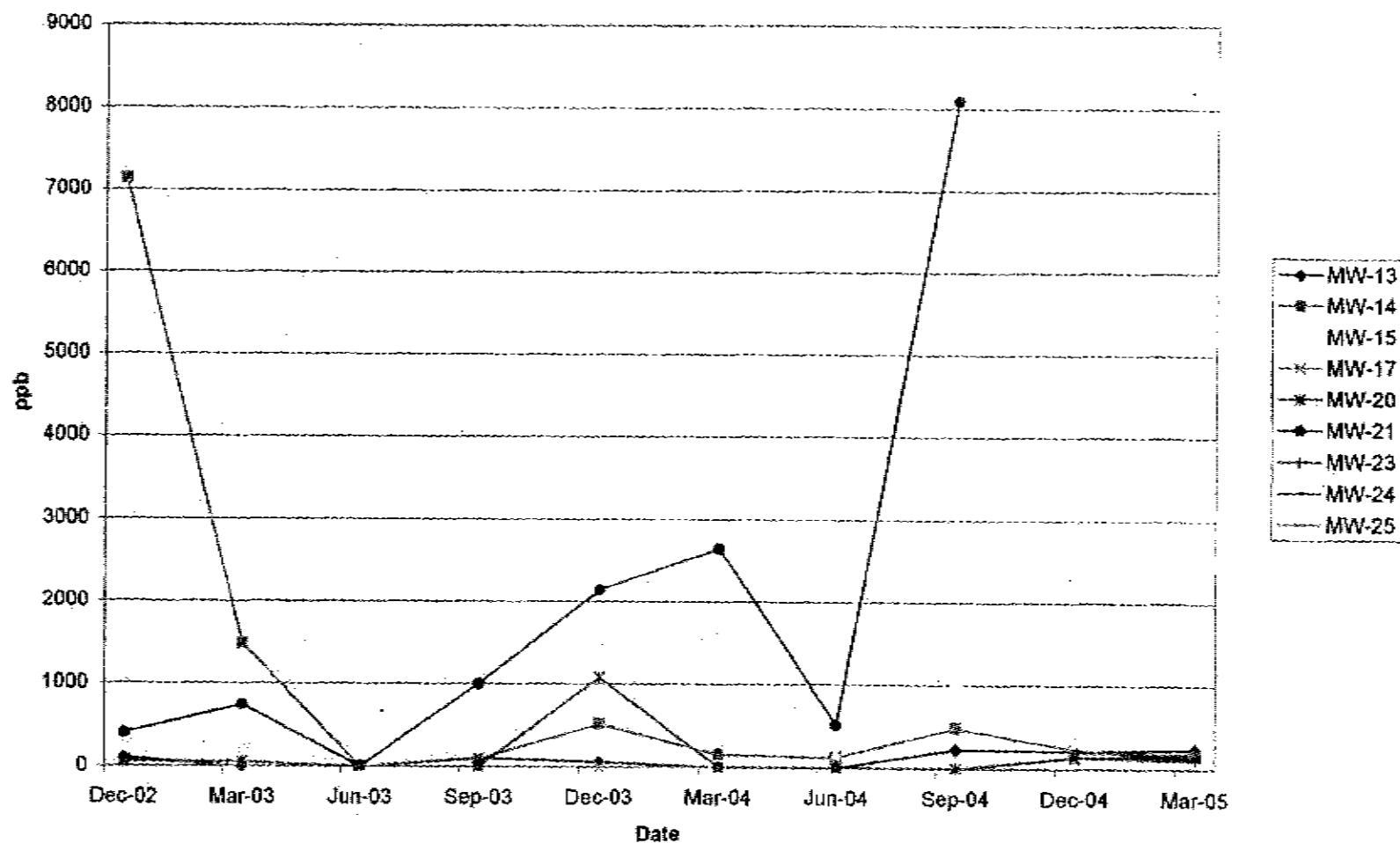
### Dissolved TPH-gas in 1st Water Wells



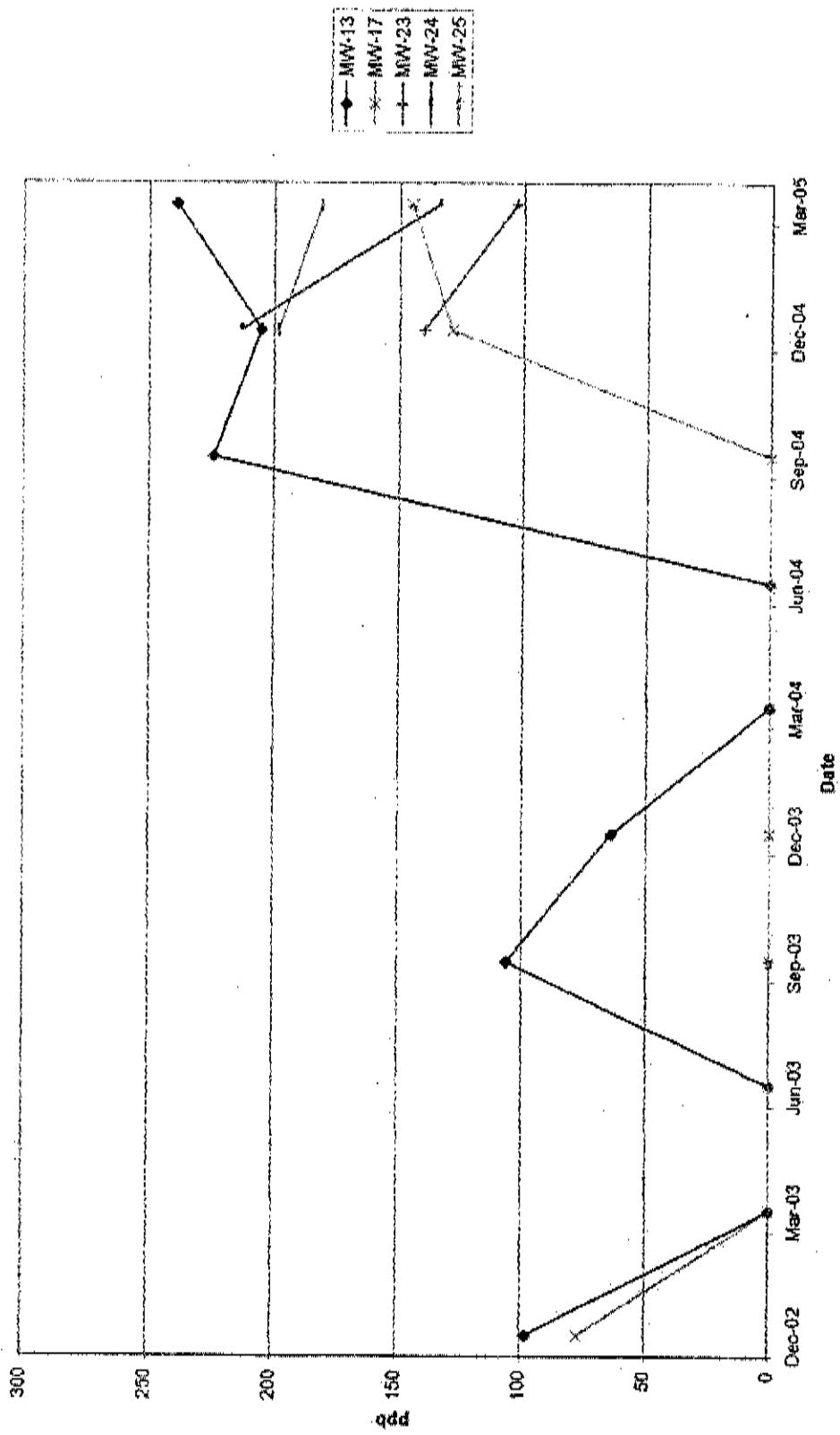
**Dissolved TPH-gas in 1st Water Wells**  
(excluding MW-10, MW-11, MW-18, MW-19 and MW-26 for smaller scale)



### Dissolved TPH-gas in A1 Wells

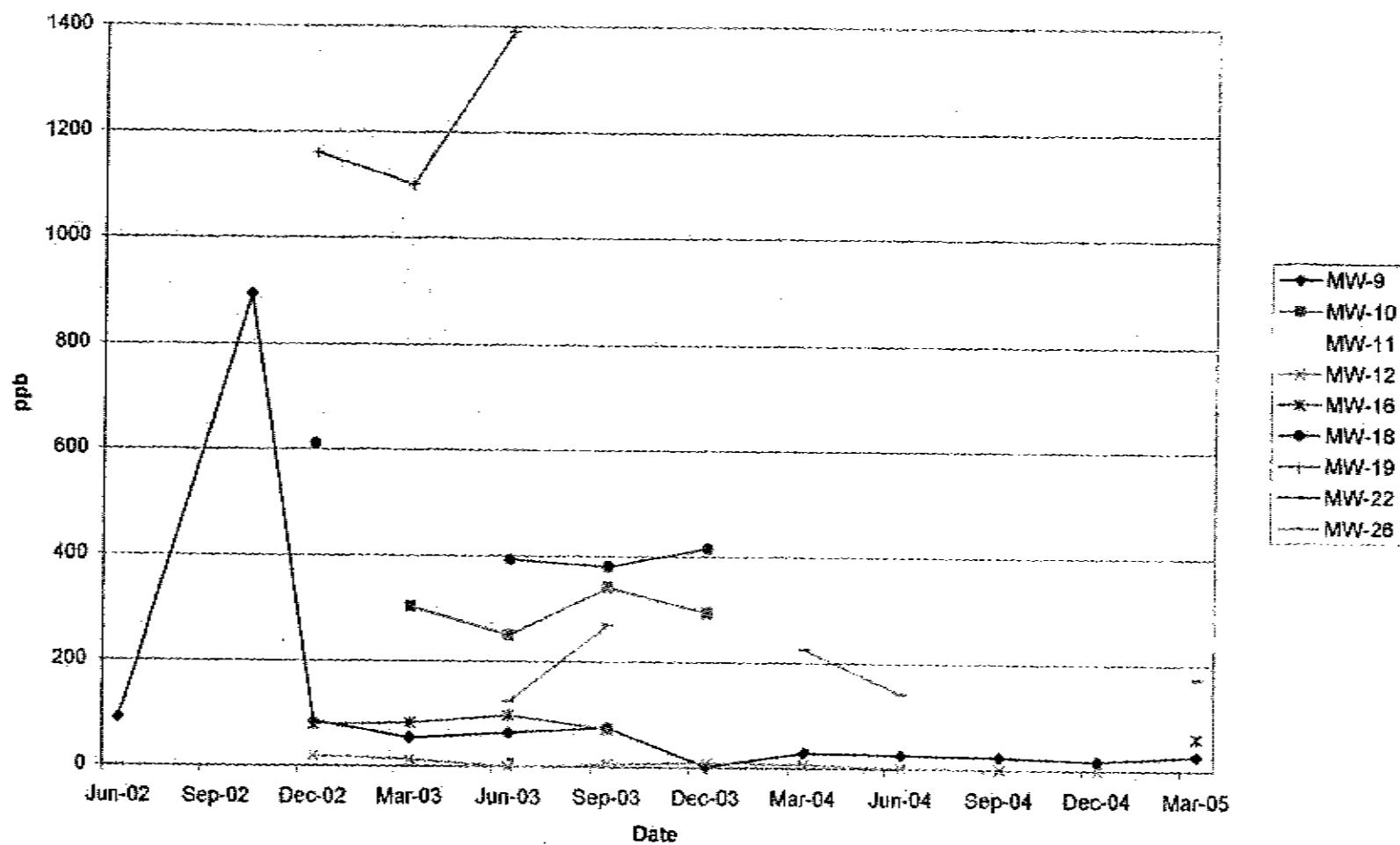


Dissolved TPH-gas in A1 Wells  
(excluding MW-14, MW-15, MW-20 and MW-21 for smaller scale)

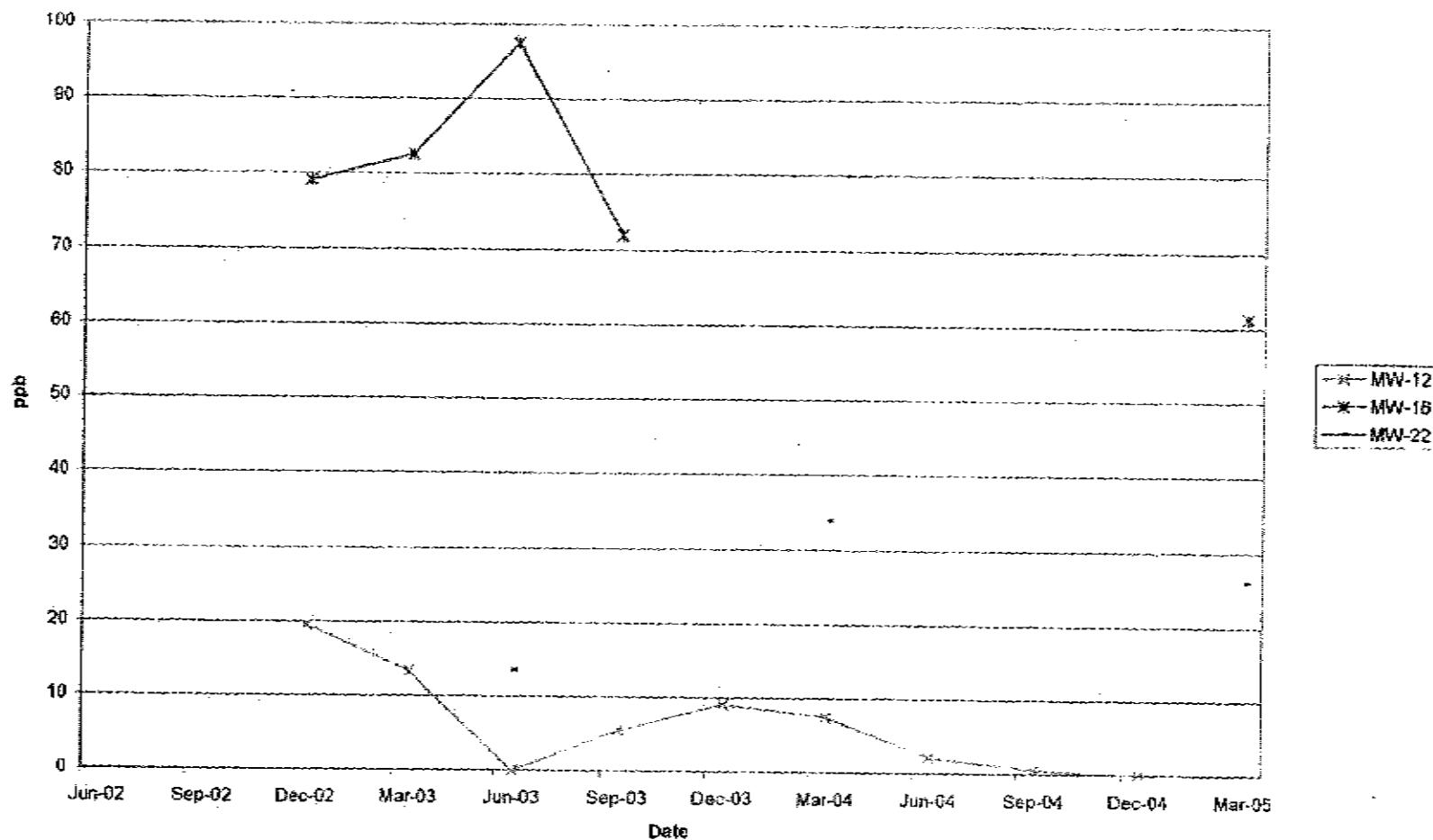


ANCHEM0824

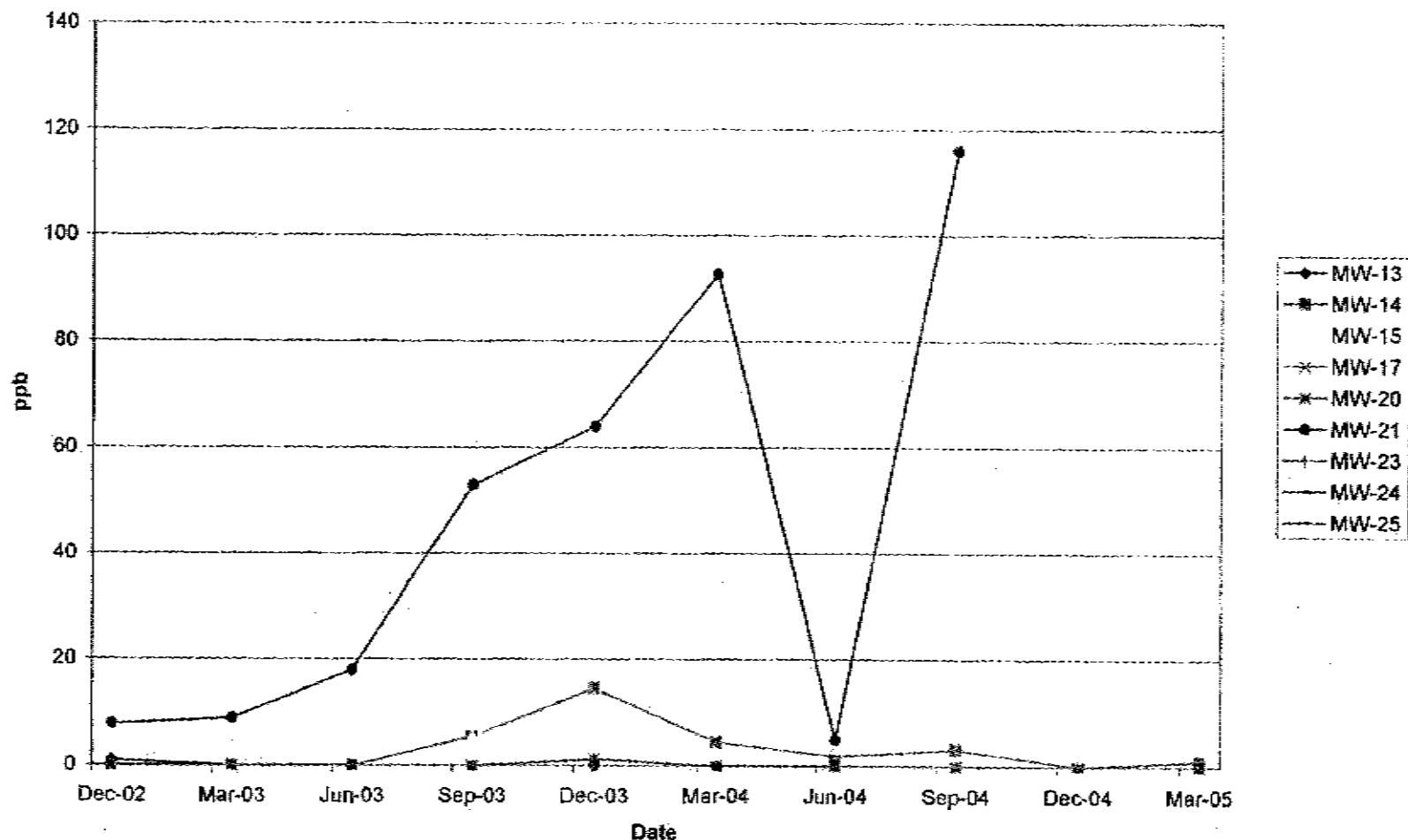
### Dissolved Benzene in 1st Water Wells



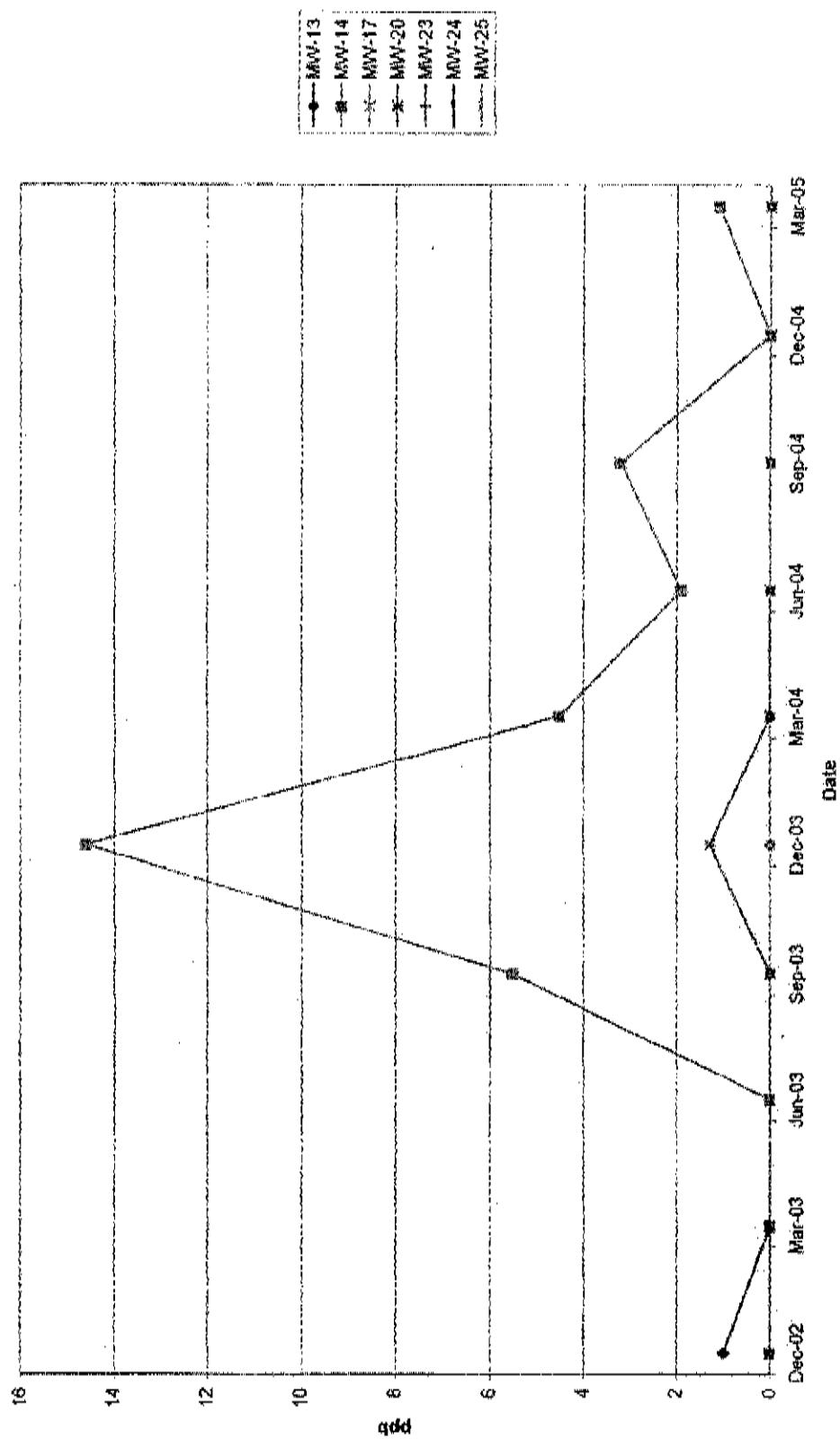
**Dissolved Benzene in 1st Water Wells**  
[excluding MW-9, MW-10, MW-11, MW-18, MW-19 and MW-26 for smaller scale]



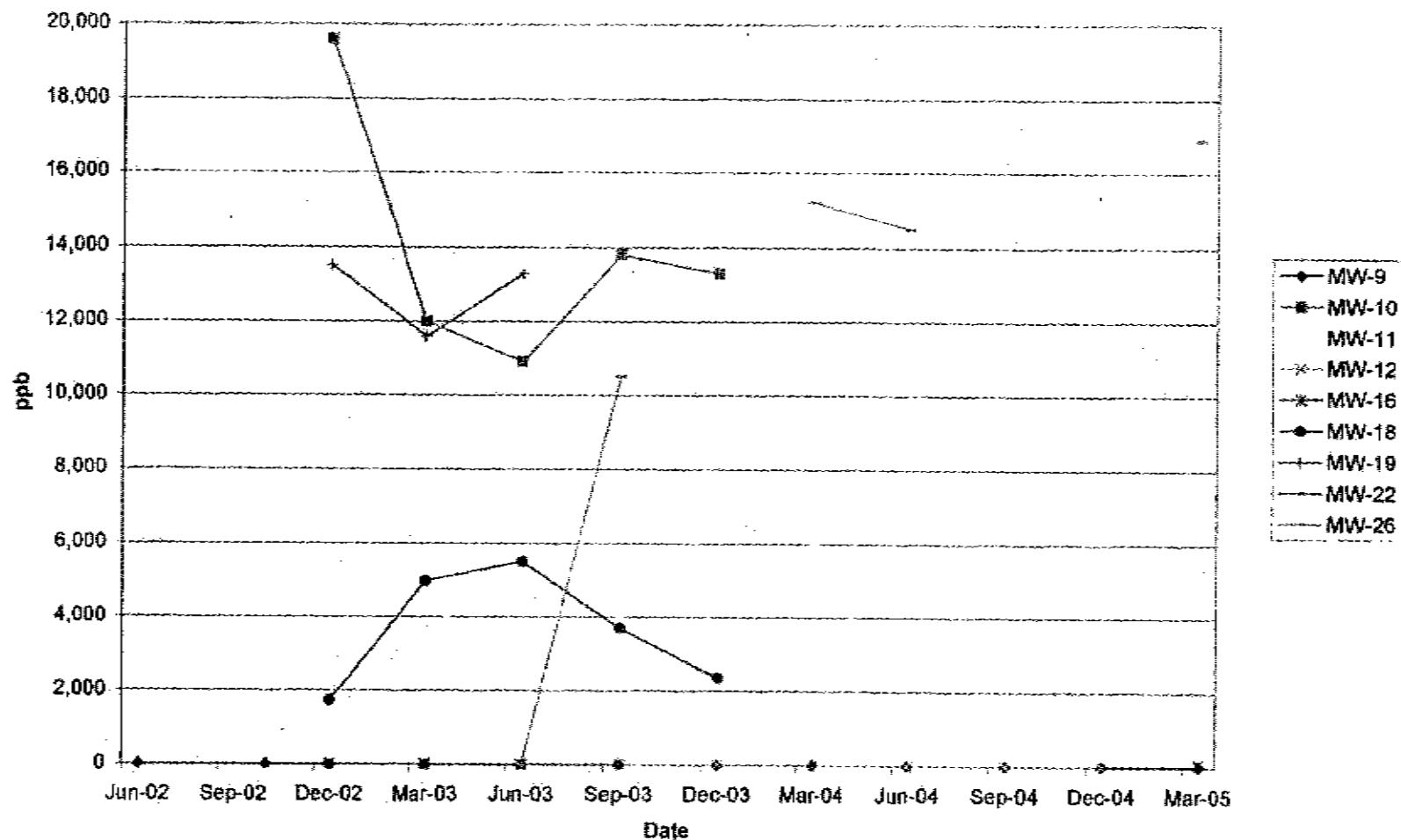
### Dissolved Benzene in A1 Wells



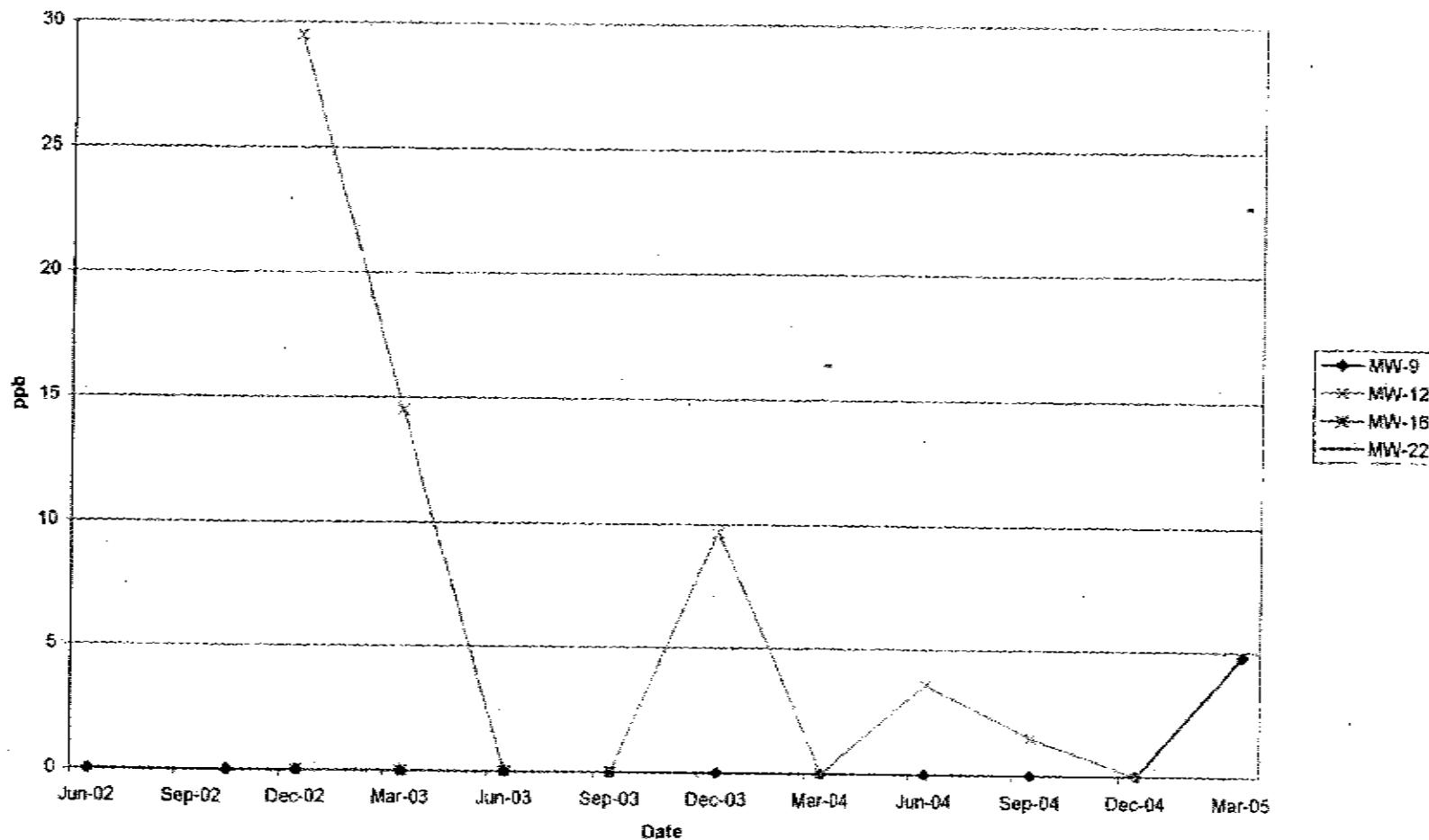
**Dissolved Benzene in A1 Wells**  
**(excluding MW-15 and MW-21 for smaller scale)**



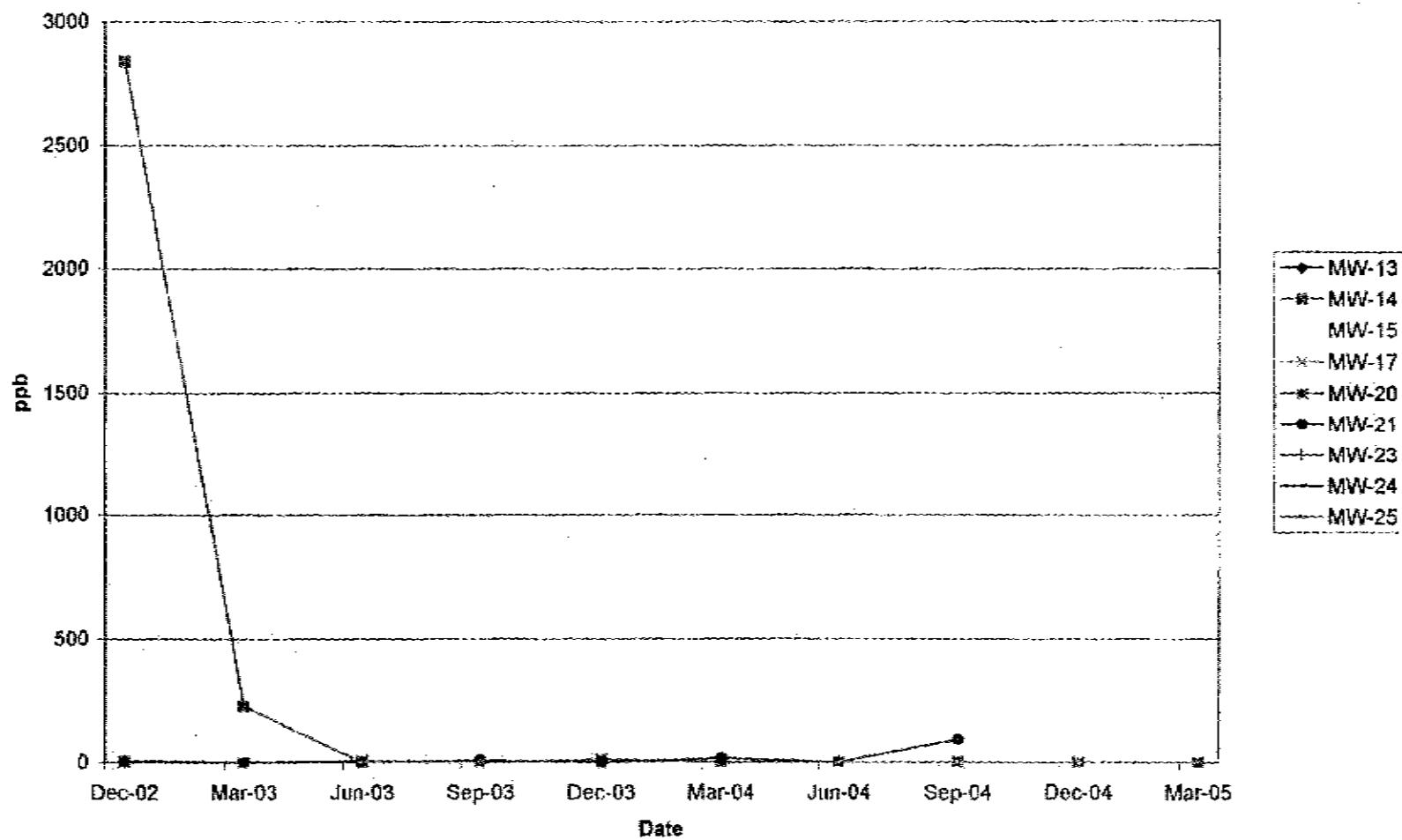
### Dissolved Toluene in 1st Water Wells



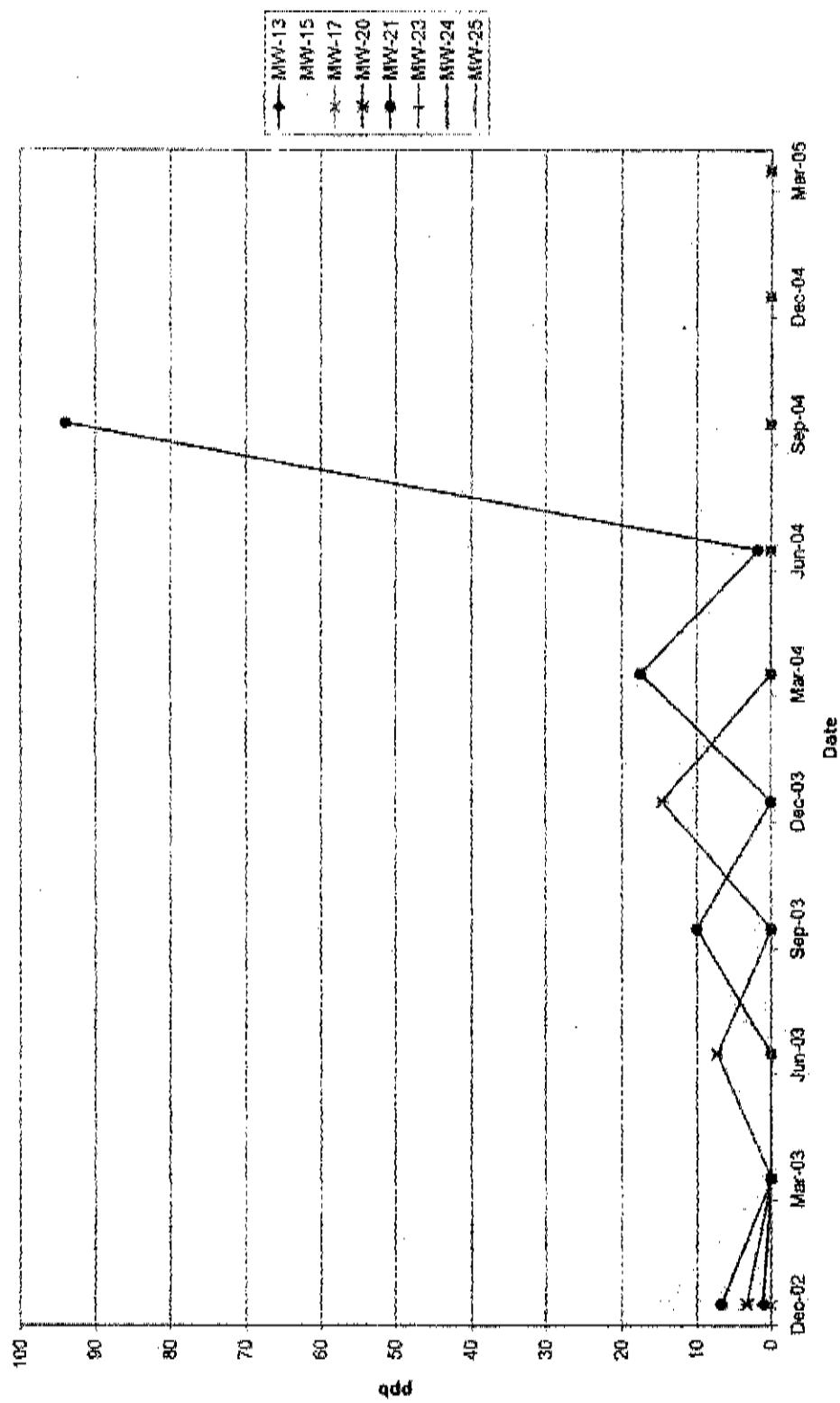
**Dissolved Toluene in 1st Water Wells**  
**(excluding MW-10, MW-11, MW-18, MW-19 and MW-26 for smaller scale)**



### Dissolved Toluene in A1 Wells

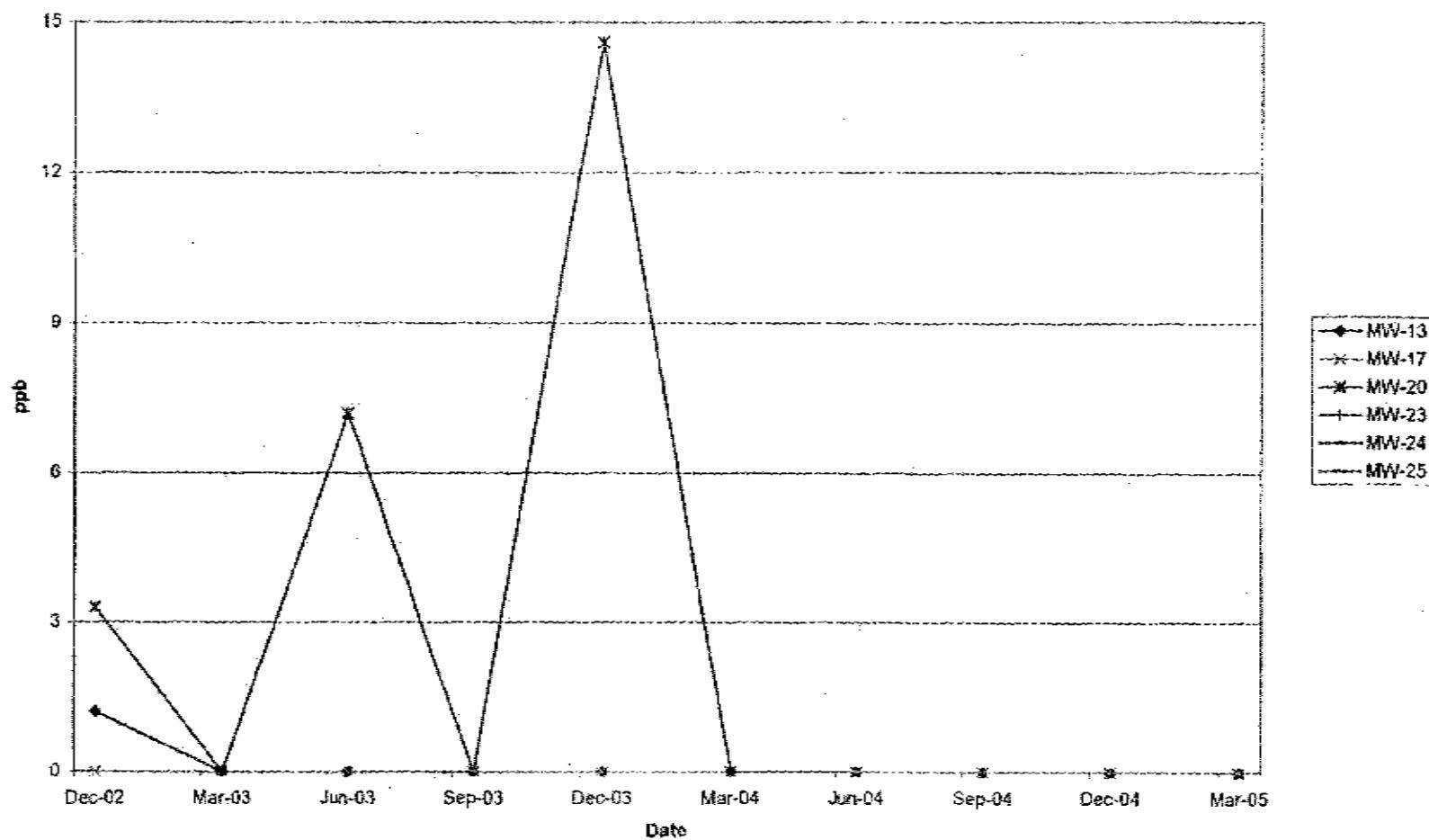


Dissolved Toluene in A1 Wells  
(excluding MW-14 for smaller scale)

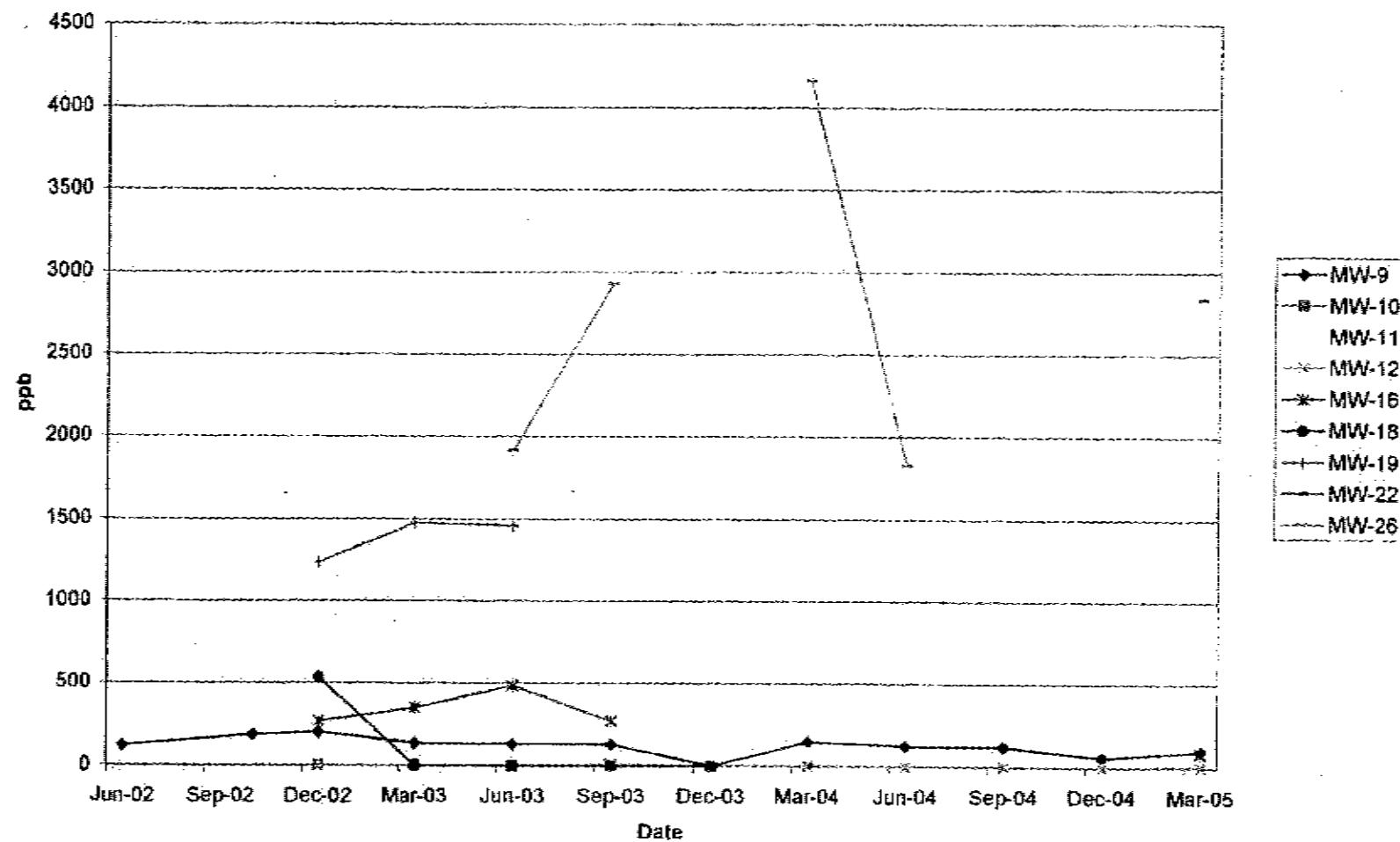


ANCHEM0832

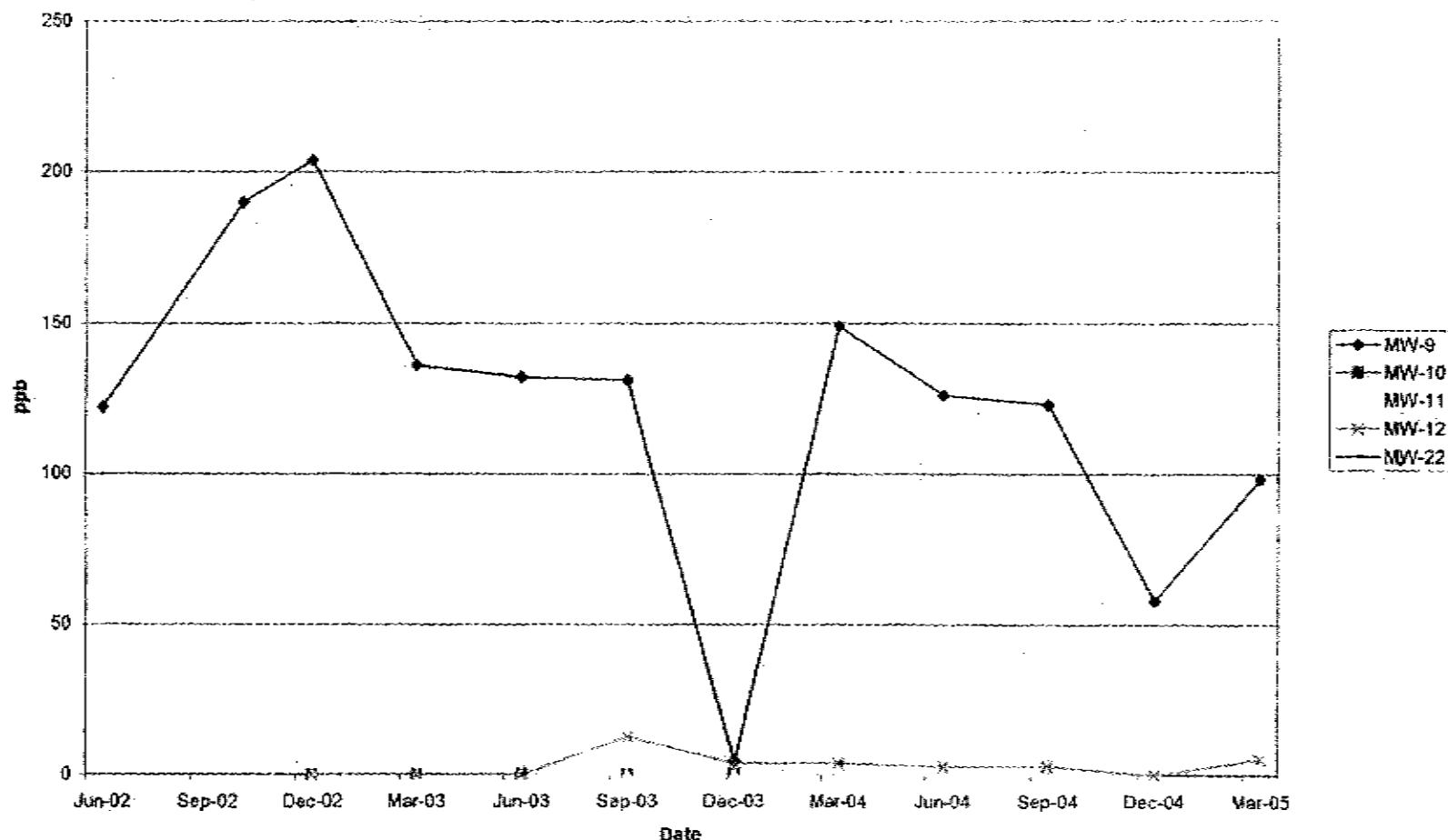
**Dissolved Toluene in A1 Wells**  
(excluding MW-14, MW-15 and MW-21 for smaller scale)



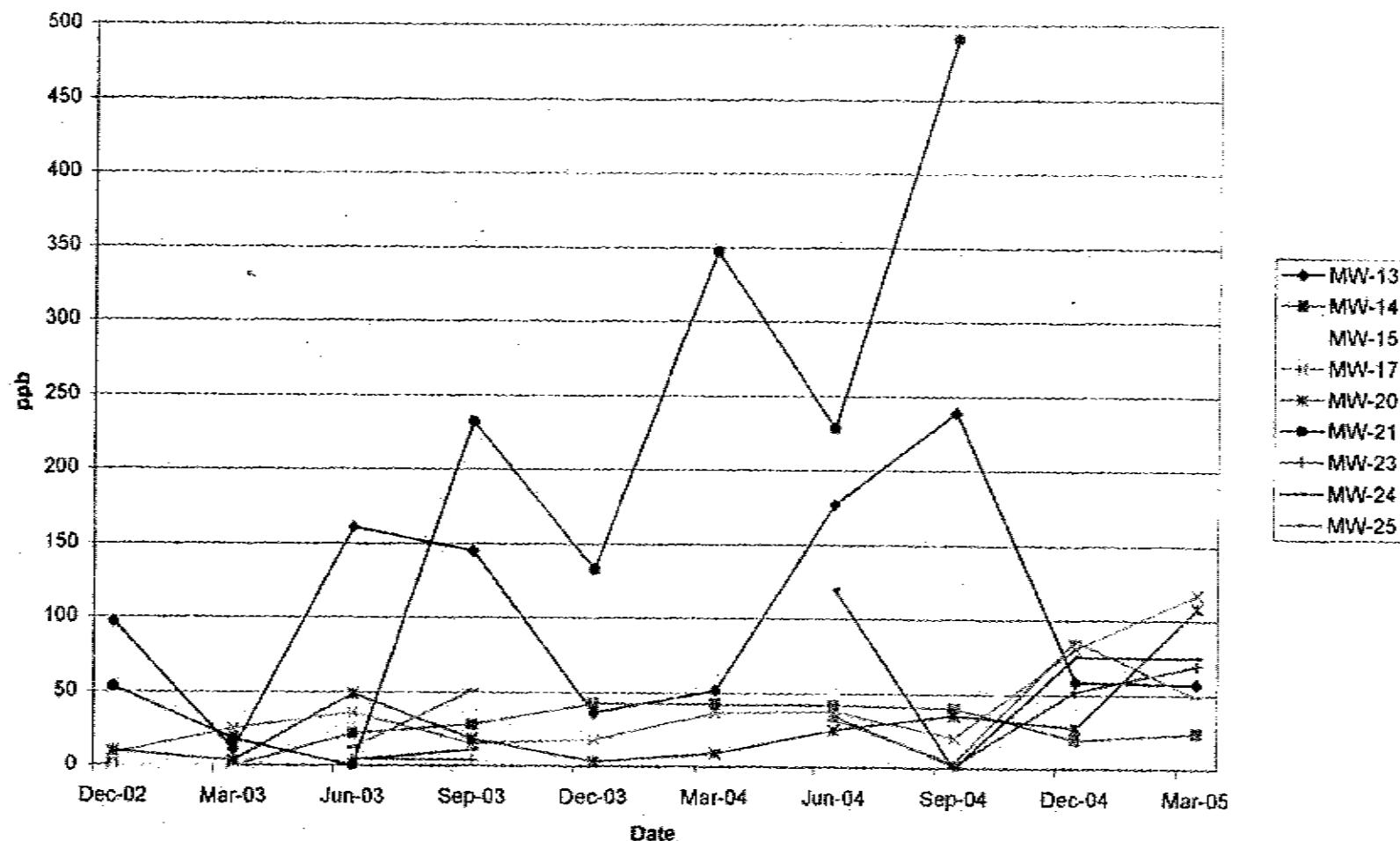
### Dissolved PCE in 1st Water Wells



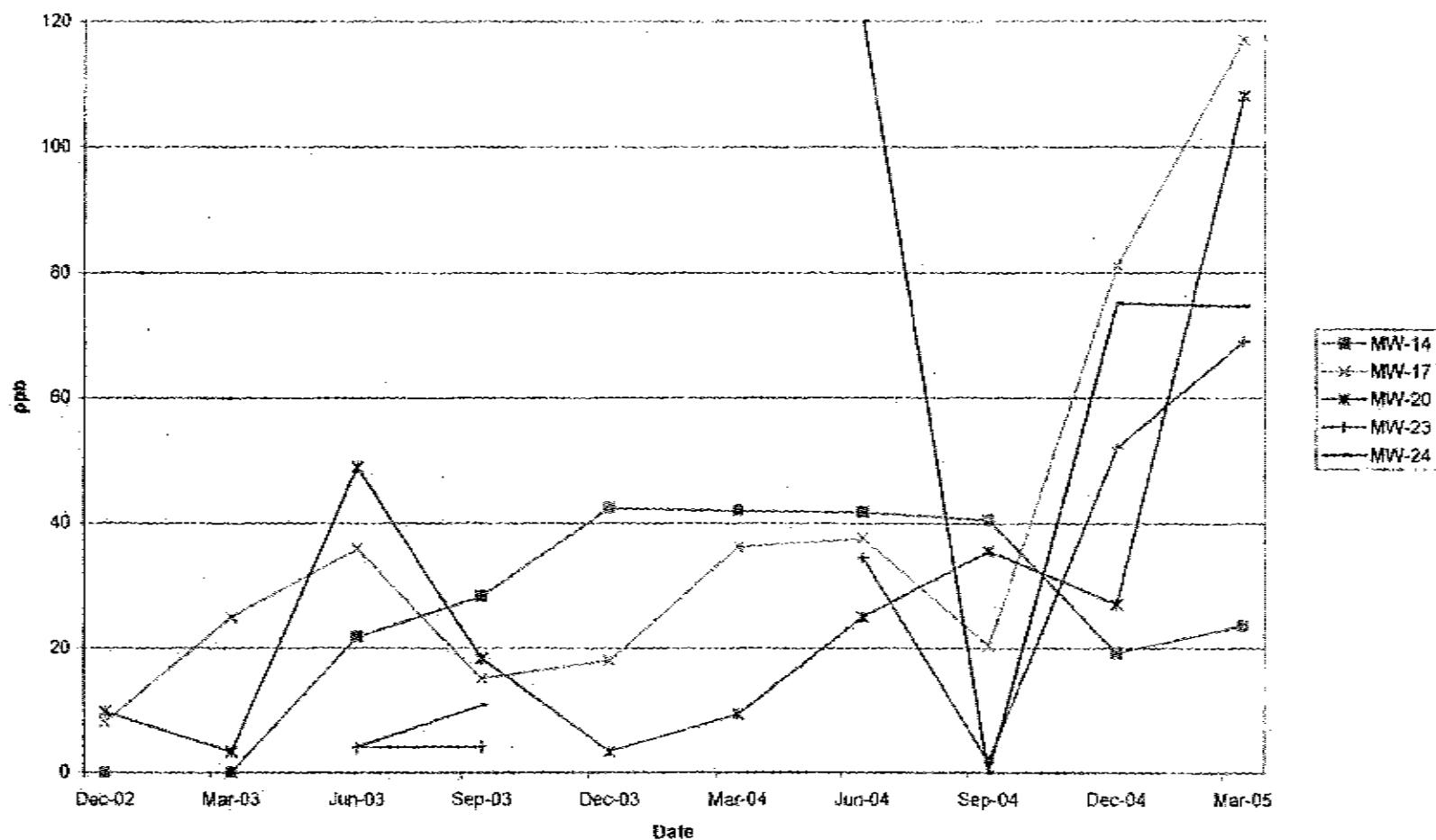
**Dissolved PCE in 1st Water Wells**  
(excluding MW-16, MW-18, MW-19 and MW-26 for smaller scale)



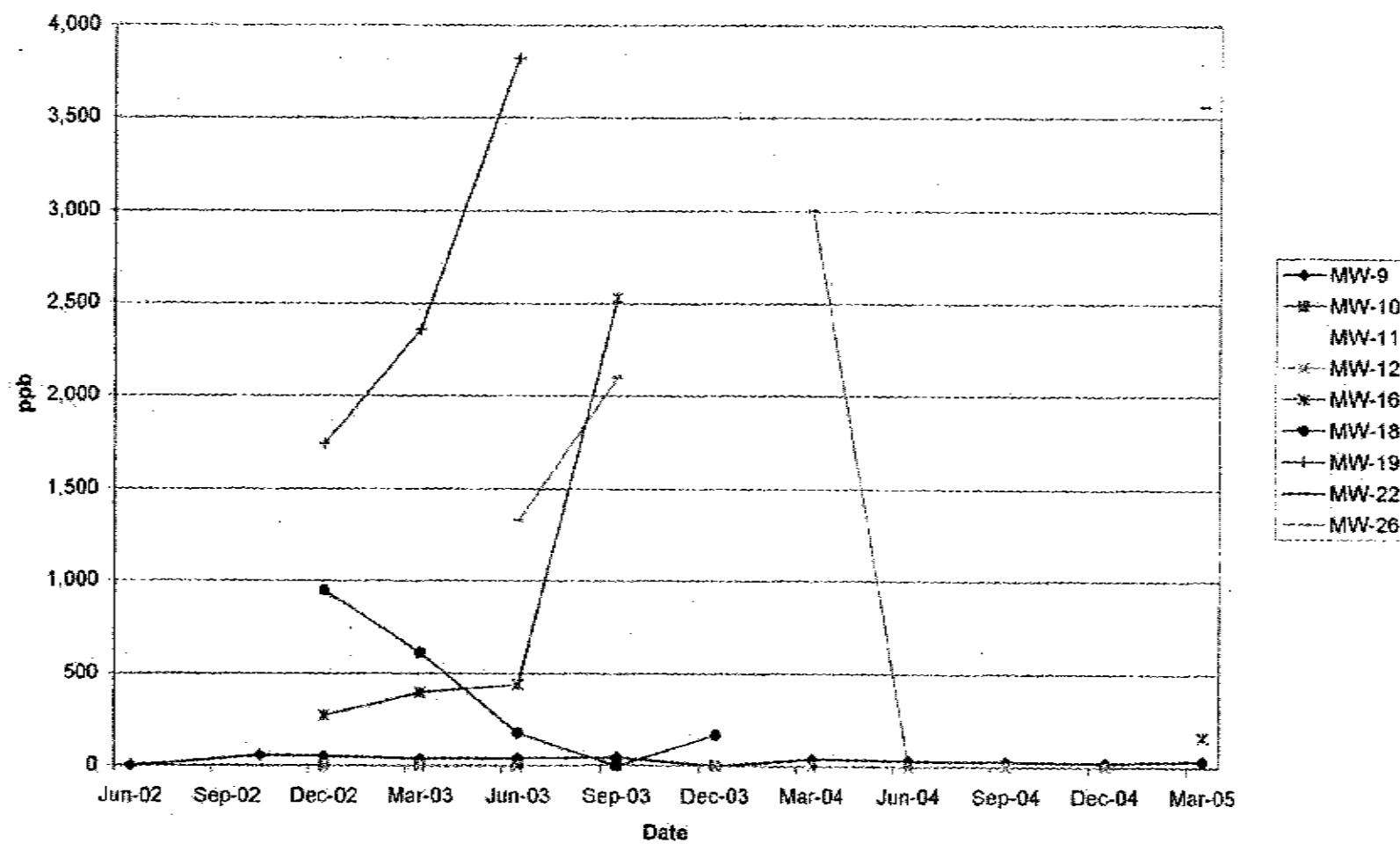
### Dissolved PCE in A1 Wells



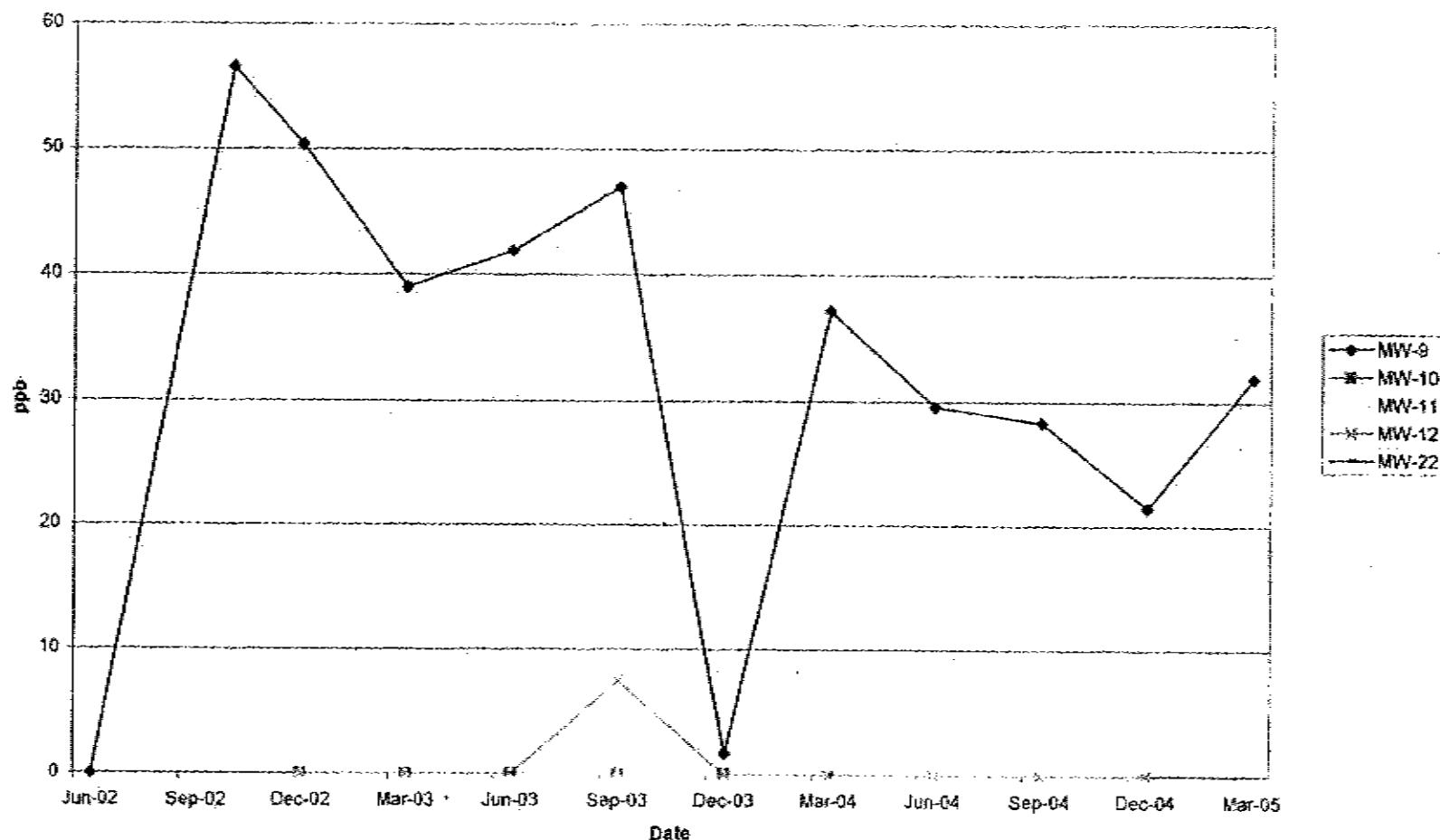
**Dissolved PCE in A1 Wells**  
(excluding MW-13, MW-15, MW-21 and MW-25 for smaller scale)



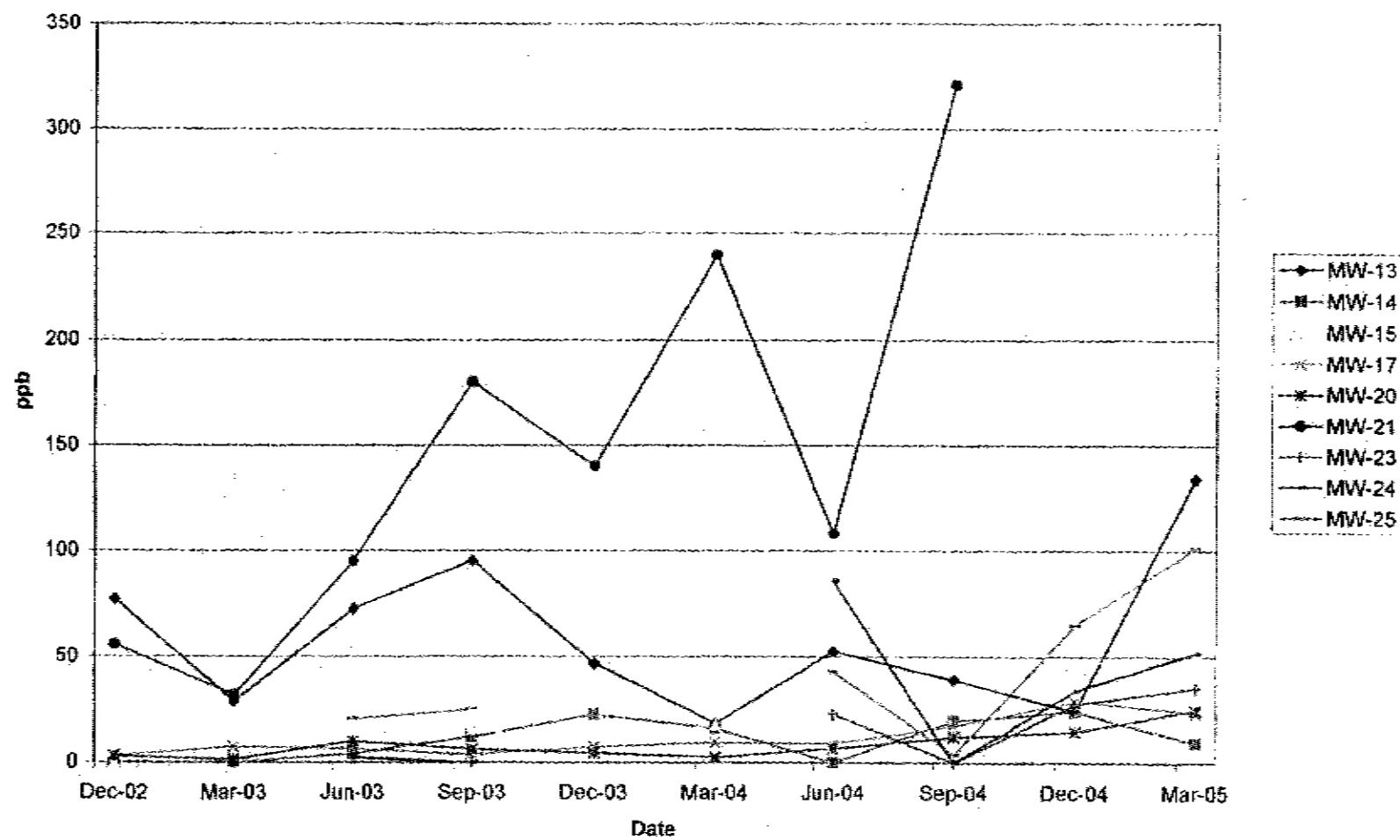
### Dissolved TCE in 1st Water Wells



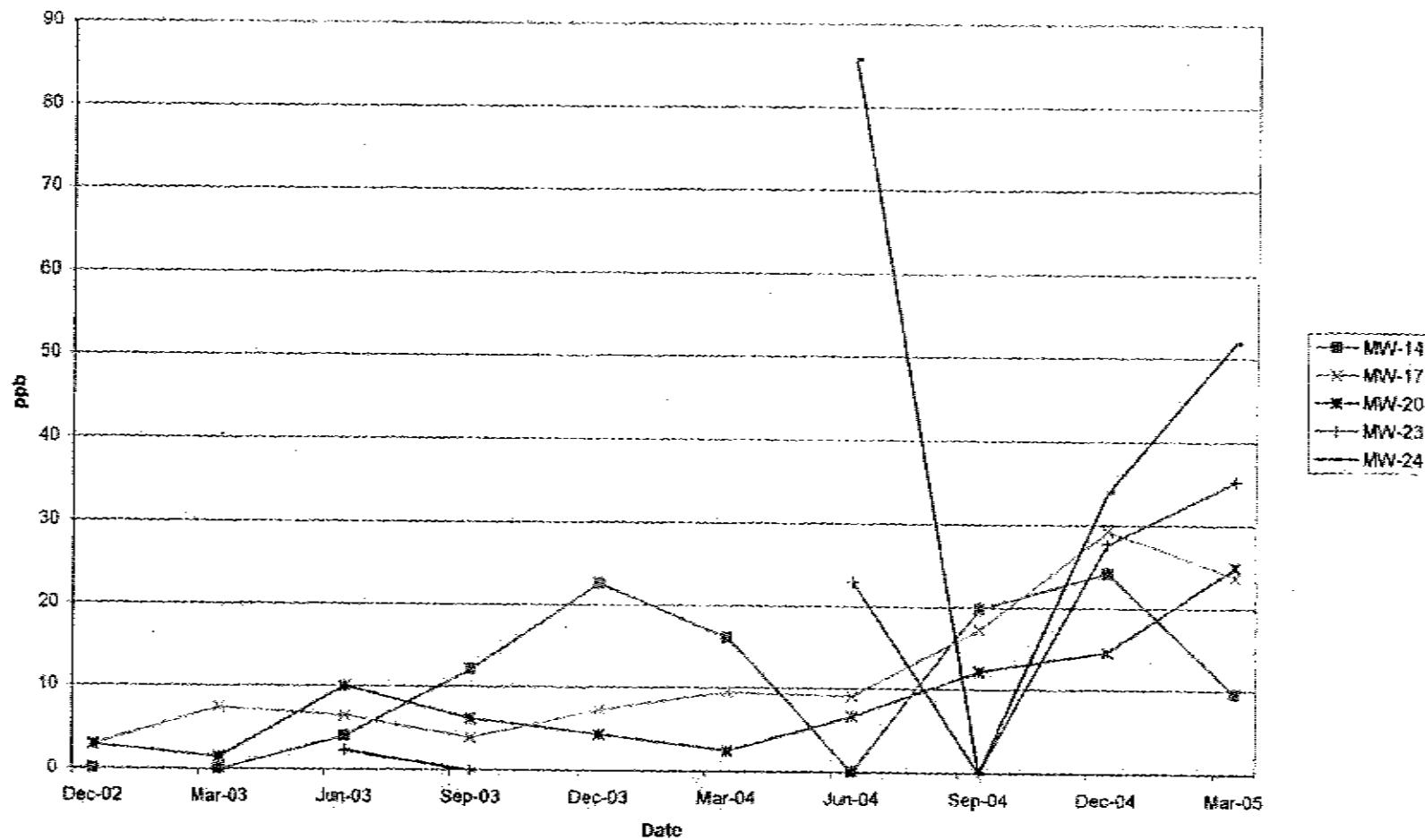
**Dissolved TCE in 1st Water Wells**  
(excluding MW-16, MW-18, MW-19 and MW-26 for smaller scale)



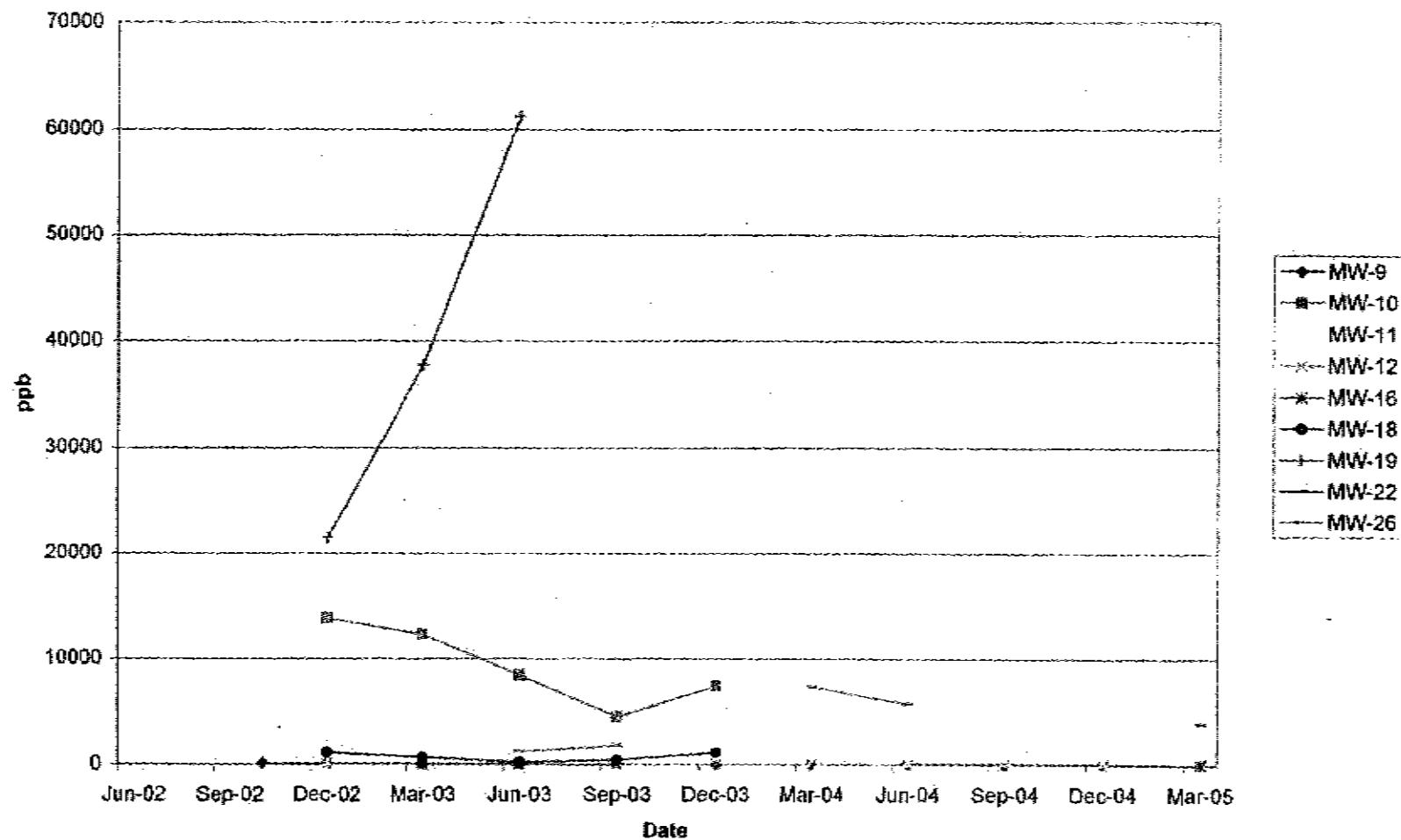
### Dissolved TCE in A1 Wells



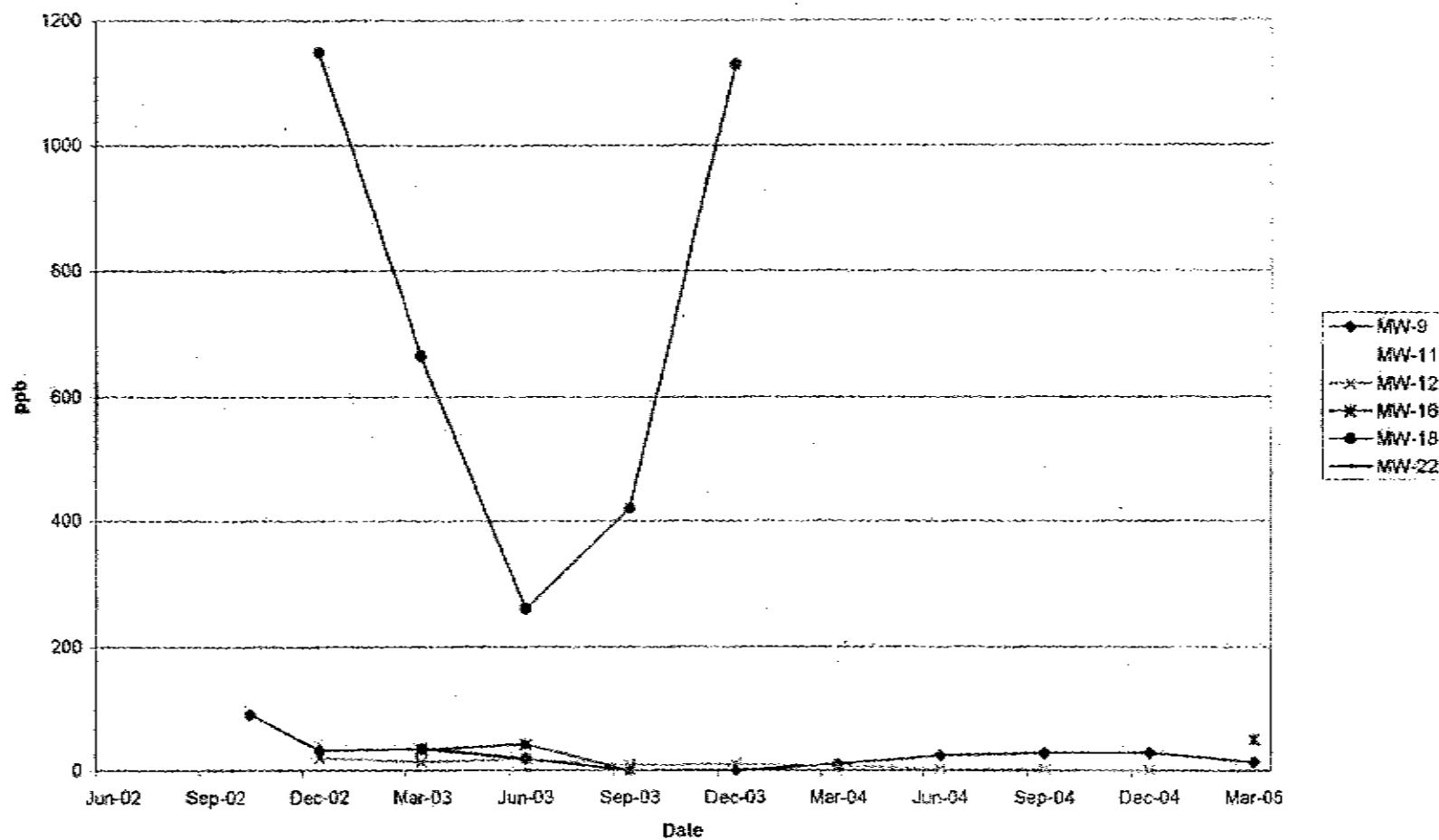
**Dissolved TCE in A1 Wells**  
(excluding MW-13, MW-15, MW-21 and MW-25 for smaller scale)



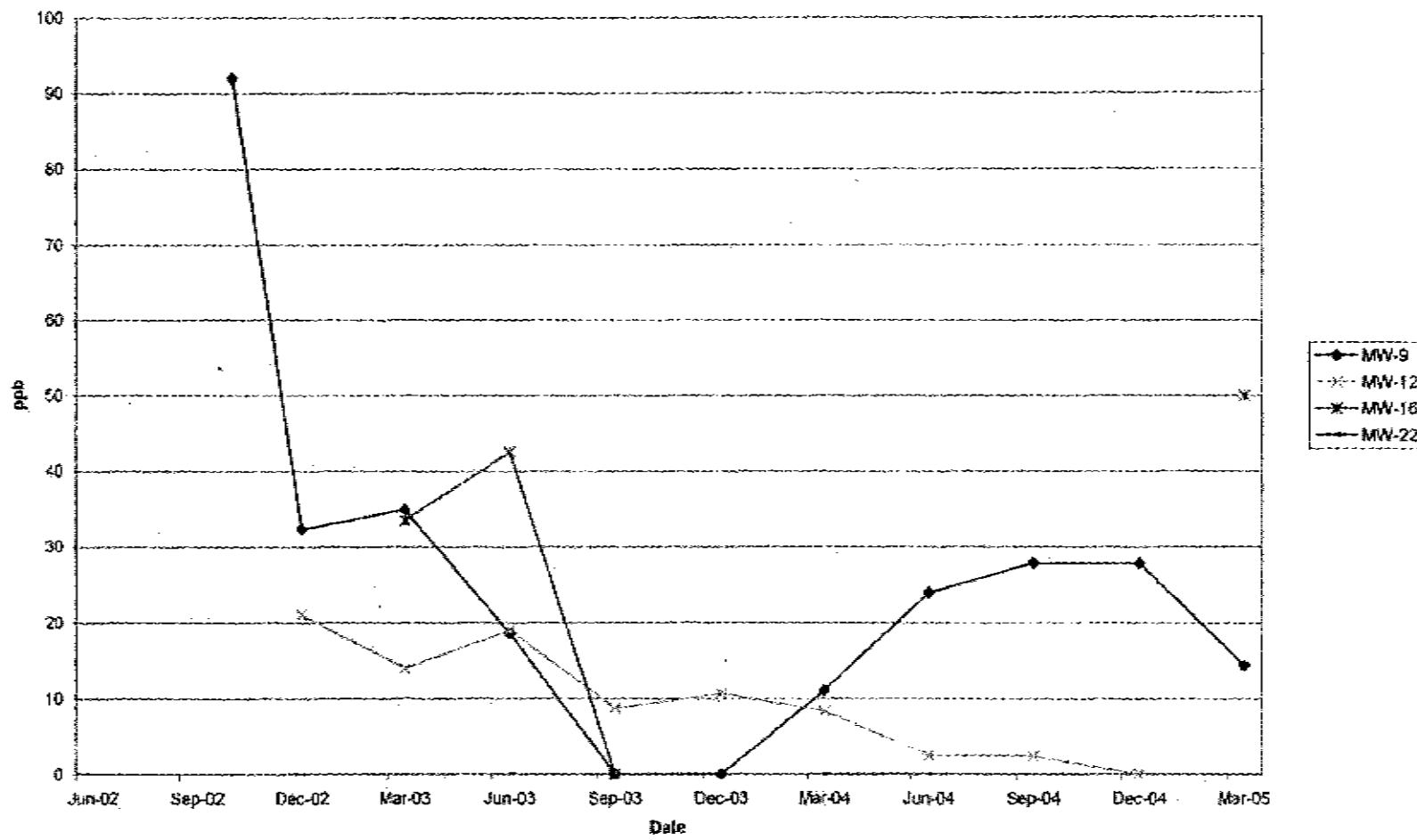
### Dissolved 1,1,1-TCA in 1st Water Wells



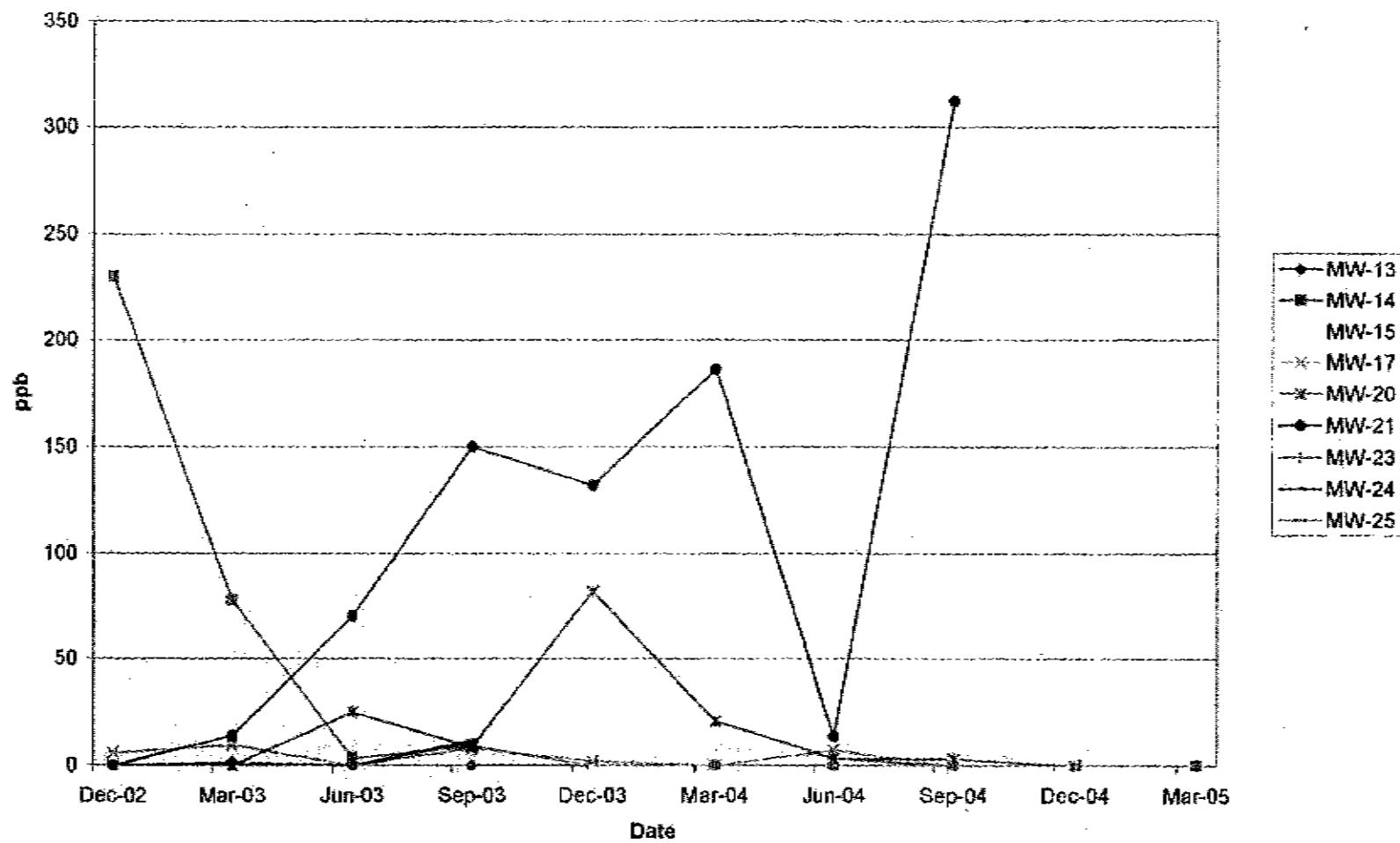
Dissolved 1,1,1-TCA in 1st Water Wells  
(excluding MW-10, MW-19 and MW-26 for smaller scale)



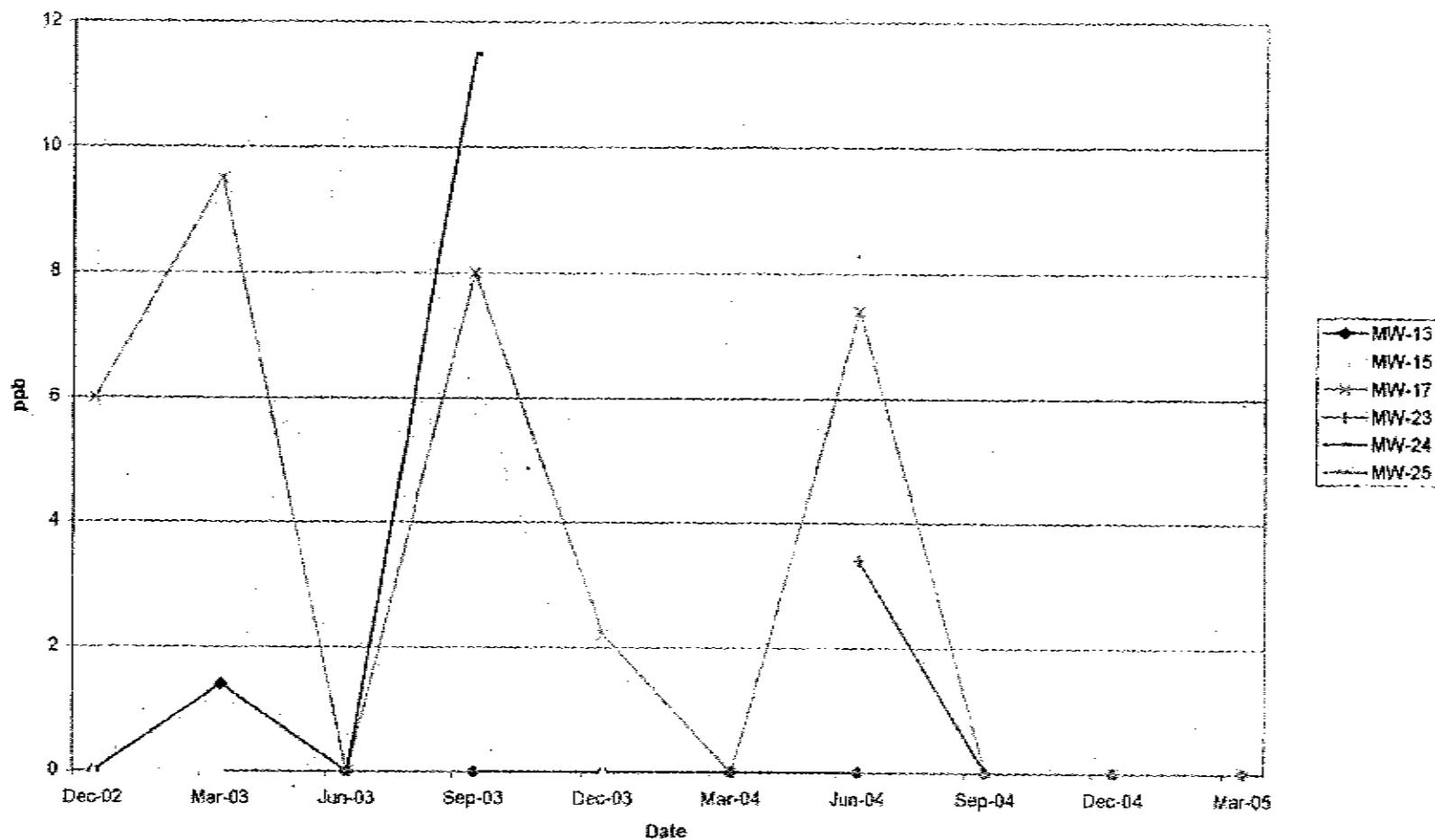
**Dissolved 1,1,1-TCA in 1st Water Wells**  
(excluding MW-10, MW-11, MW-18, MW-19 and MW-26 for smaller scale)



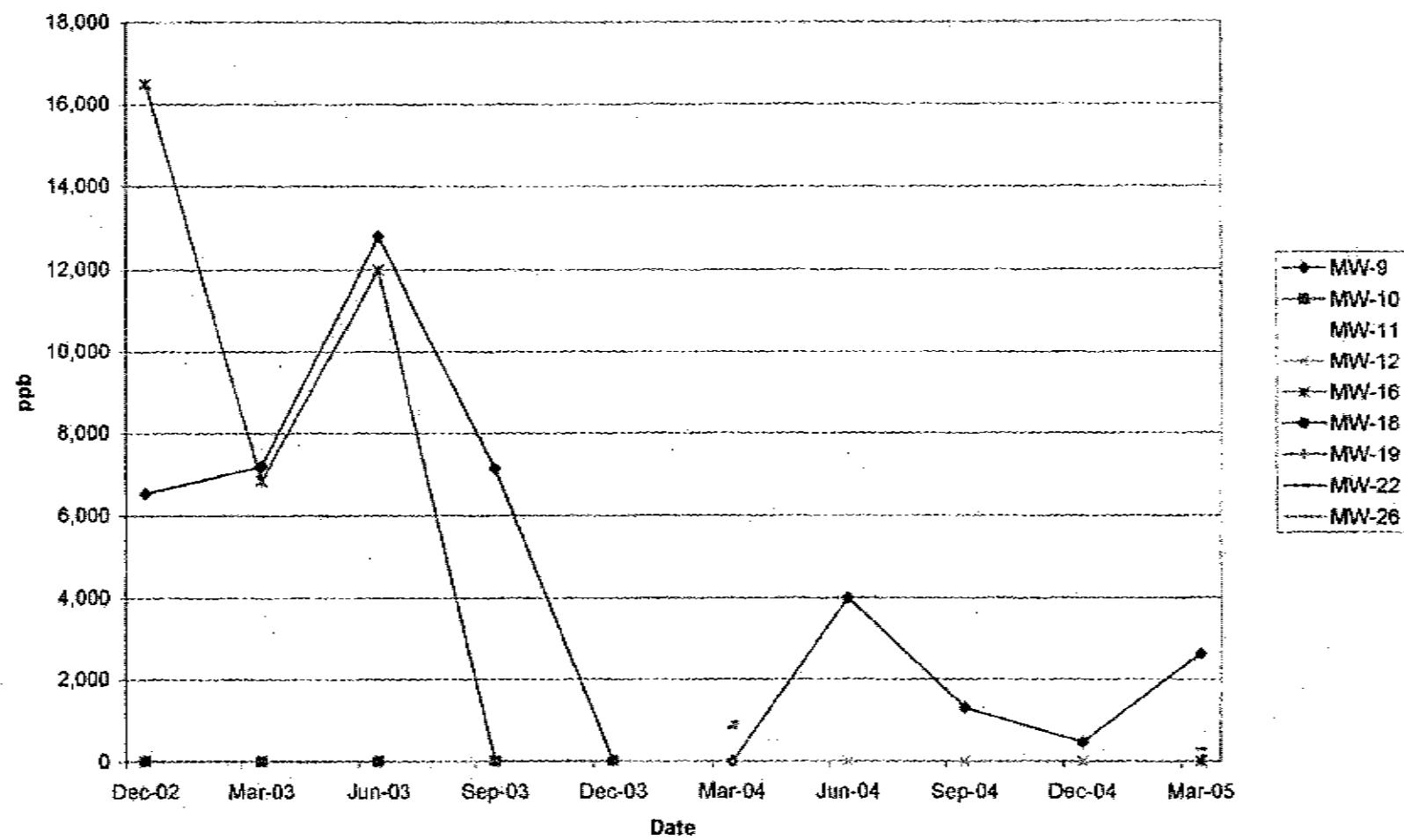
### Dissolved 1,1,1-TCA in A1 Wells



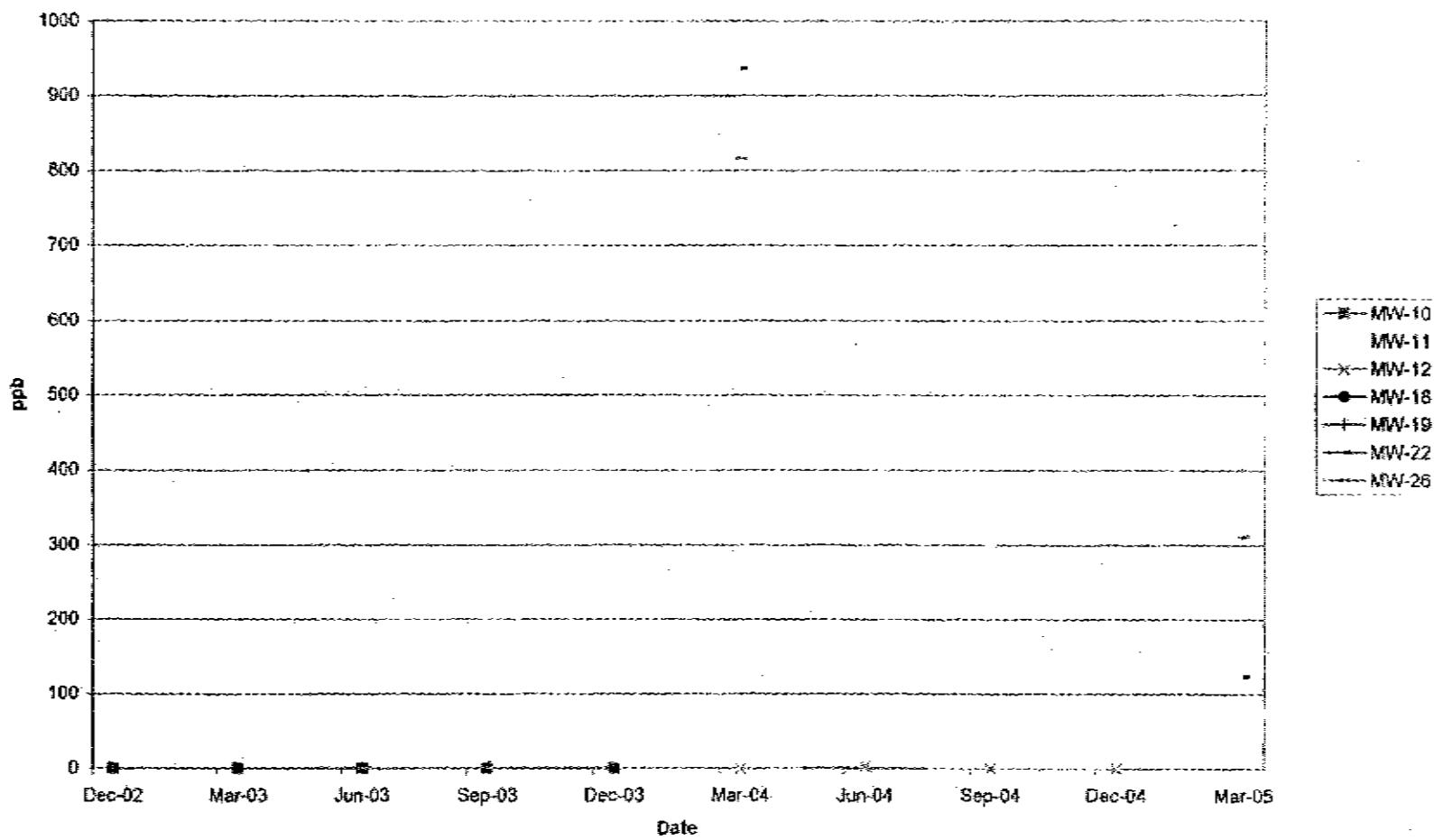
Dissolved 1,1,1-TCA in A1 Wells  
(excluding MW-14, MW-20 and MW-21 for smaller scale)



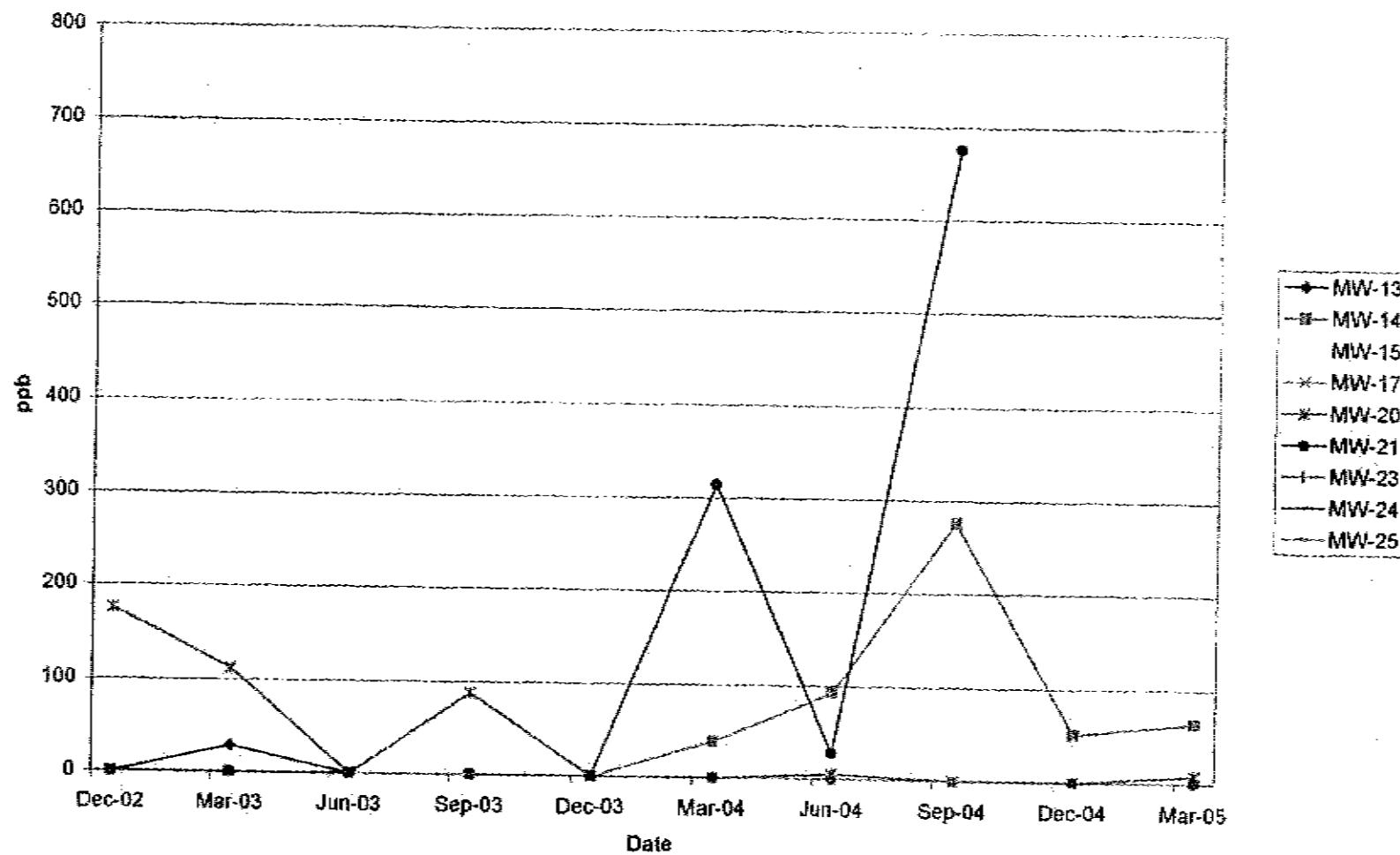
### Dissolved 1,4-Dioxane in 1st Water Wells



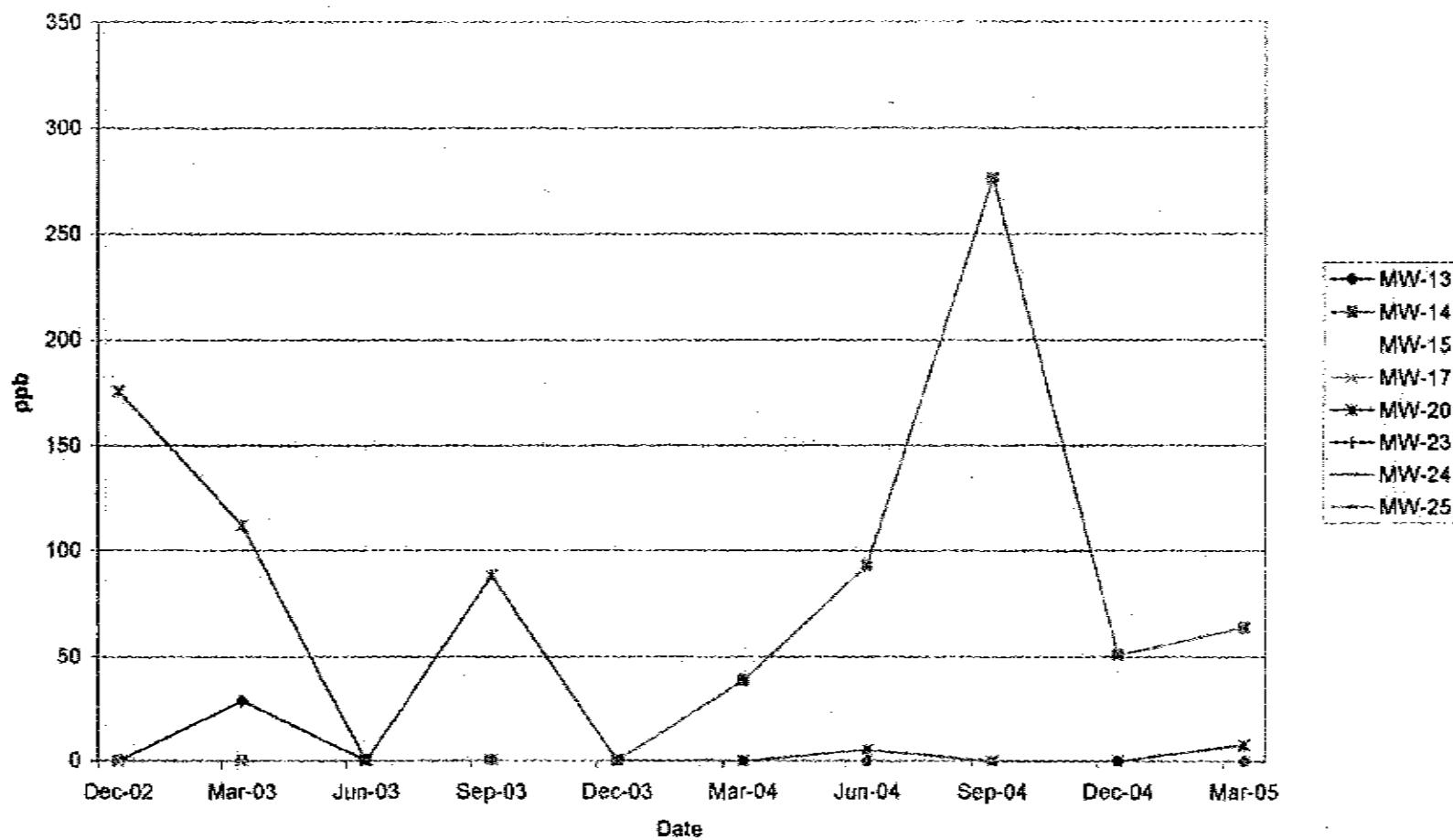
Dissolved 1,4-Dioxane in 1st Water Wells  
(excluding MW-9 and MW-16 for smaller scale)



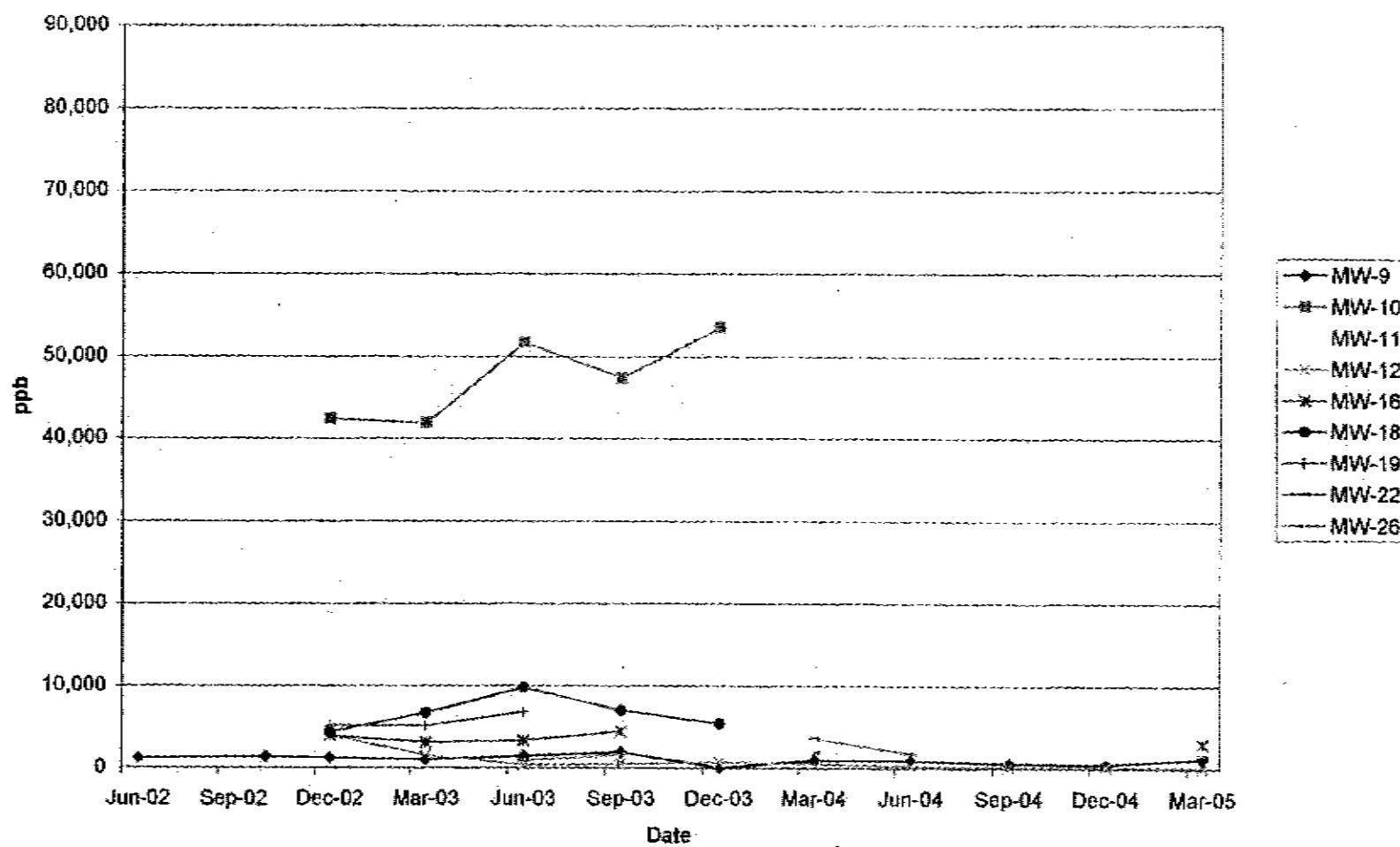
### Dissolved 1,4-Dioxane in A1 Wells



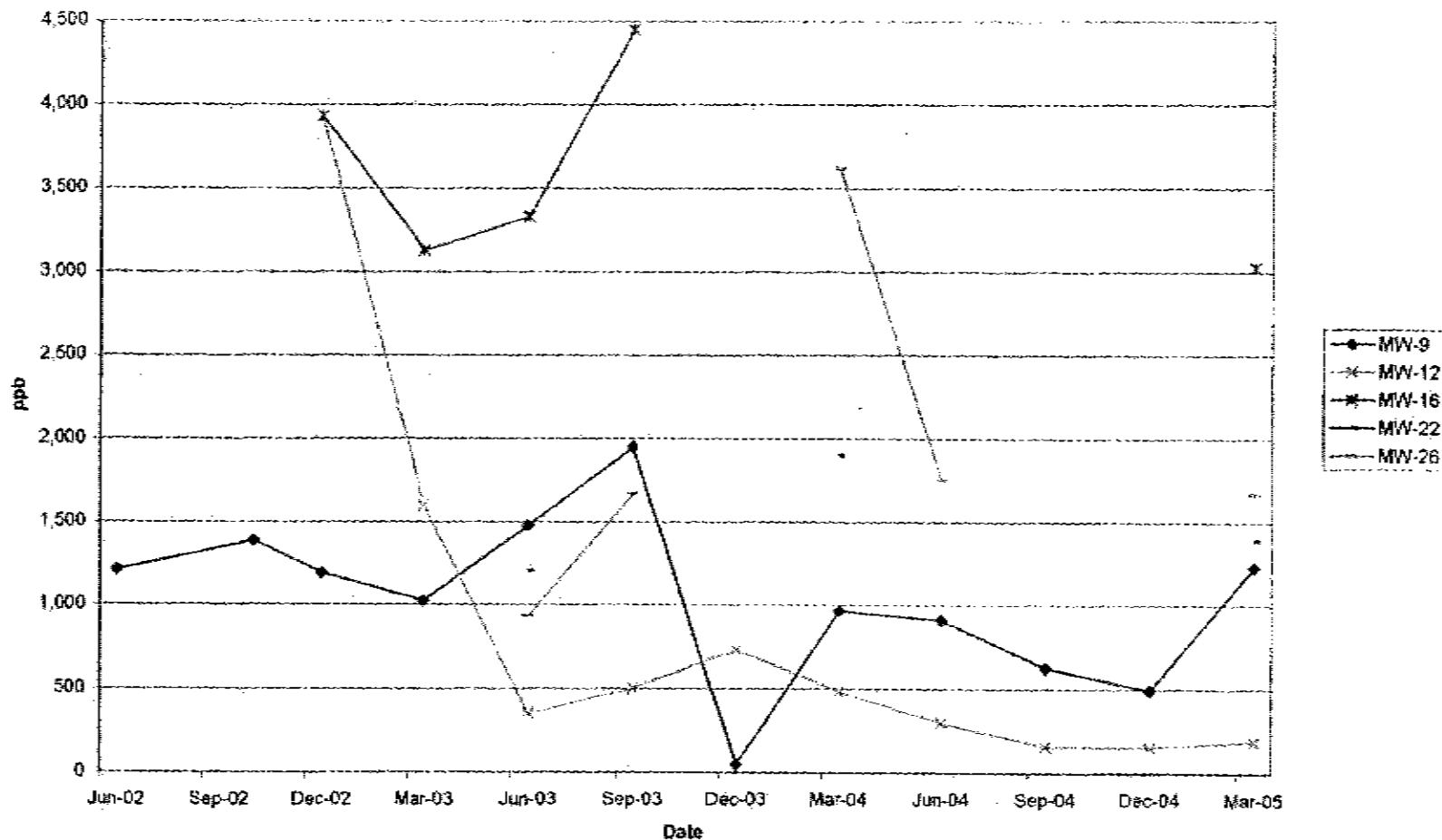
Dissolved 1,4-Dioxane in A1 Wells  
(excluding MW-21 for smaller scale)



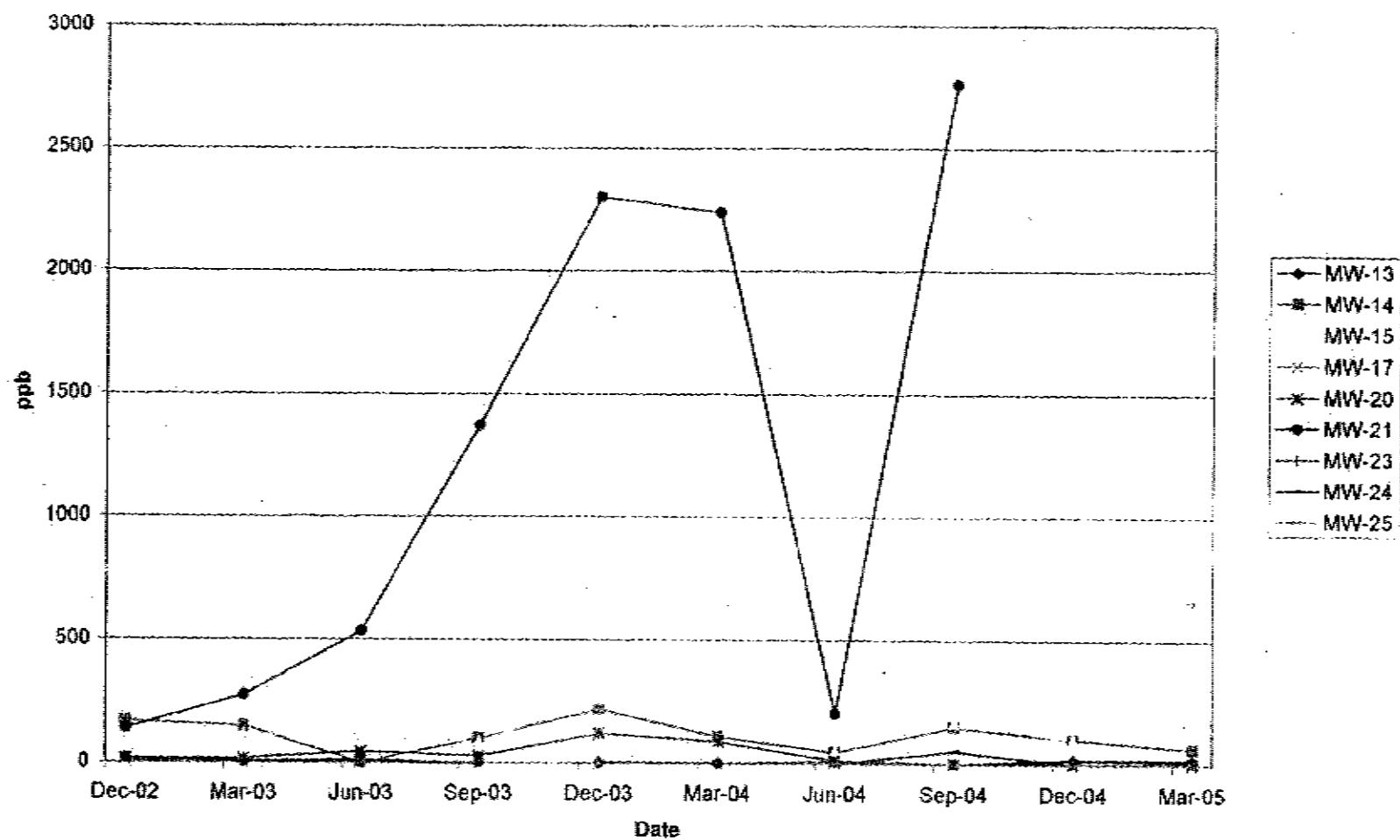
### Dissolved 1,1-DCA in 1st Water Wells



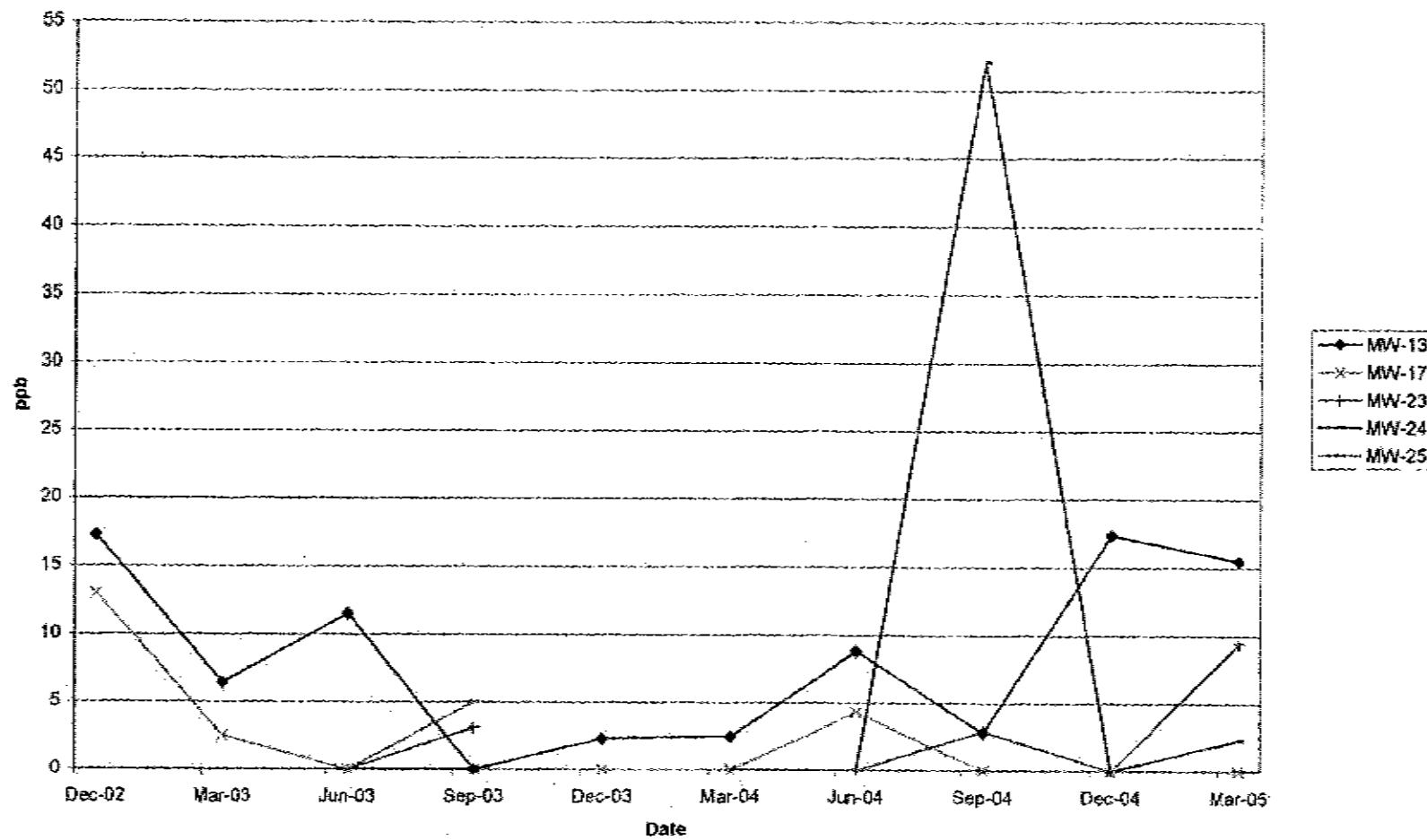
**Dissolved 1,1-DCA in 1st Water Wells**  
(excluding MW-10, MW-11, MW-18 and MW-19 for smaller scale)



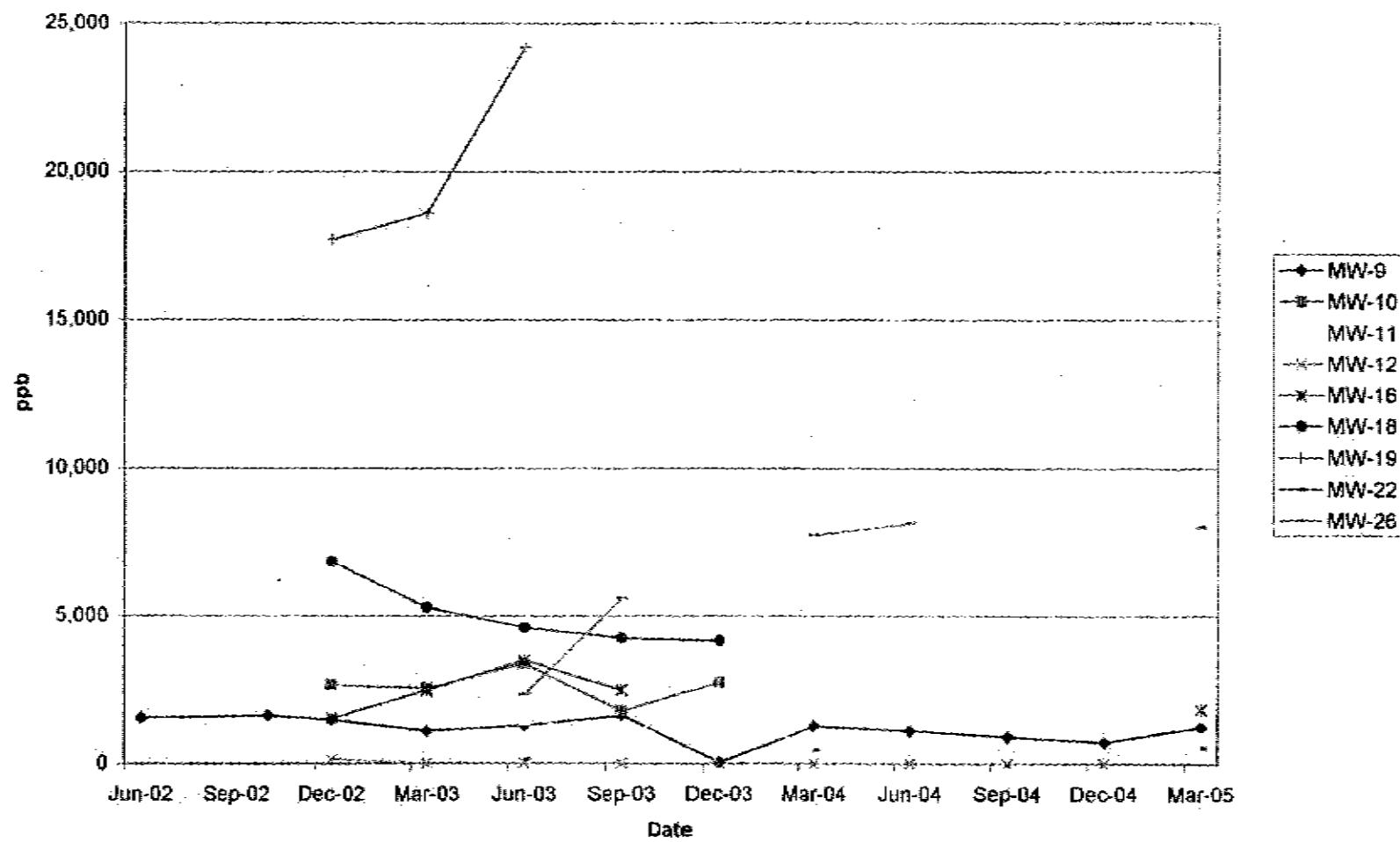
### Dissolved 1,1-DCA in A1 Wells



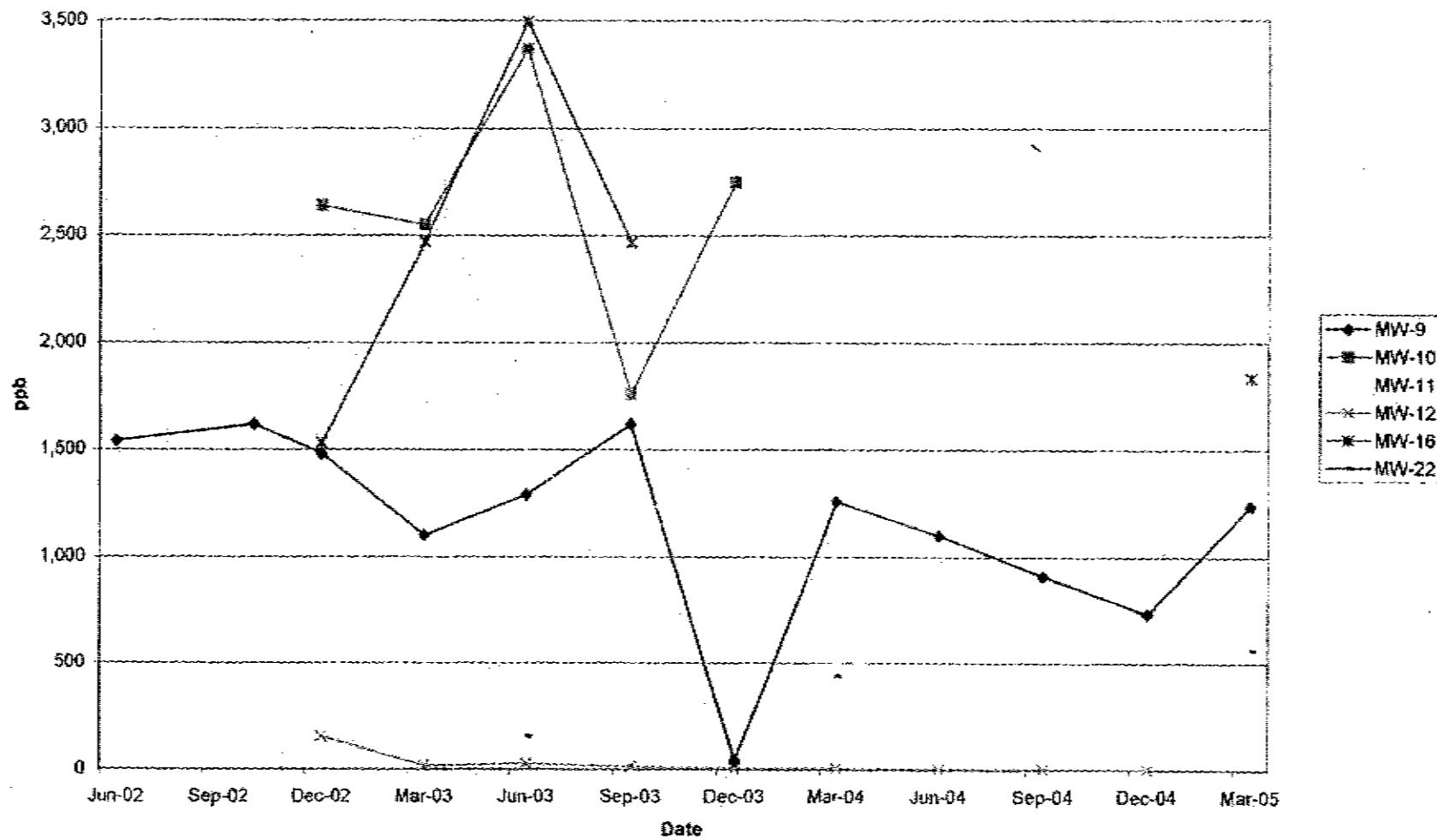
**Dissolved 1,1-DCA in A1 Wells**  
(excluding MW-14, MW-15, MW-20 and MW-21 for smaller scale)



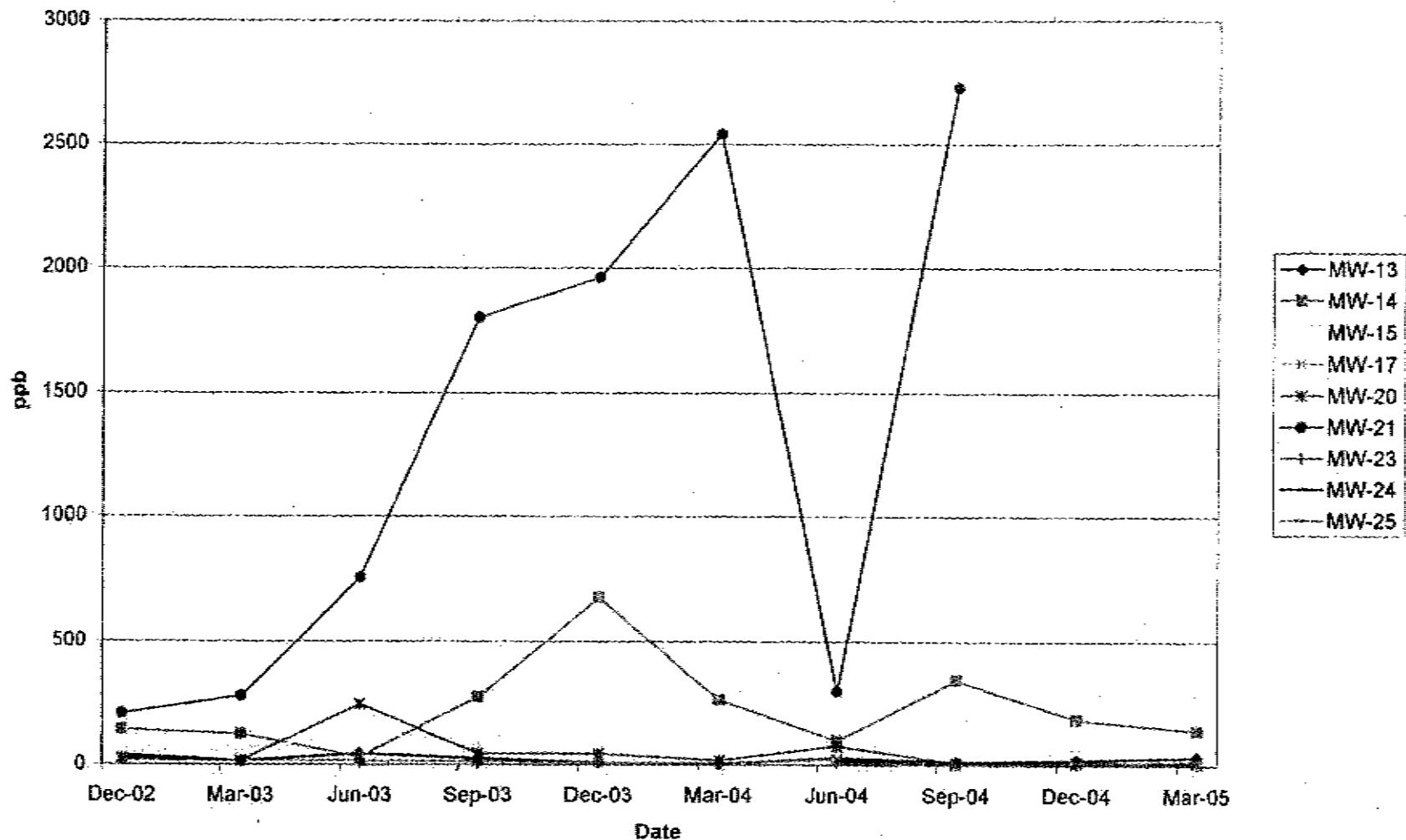
### Dissolved 1,1-DCE in 1st Water Wells



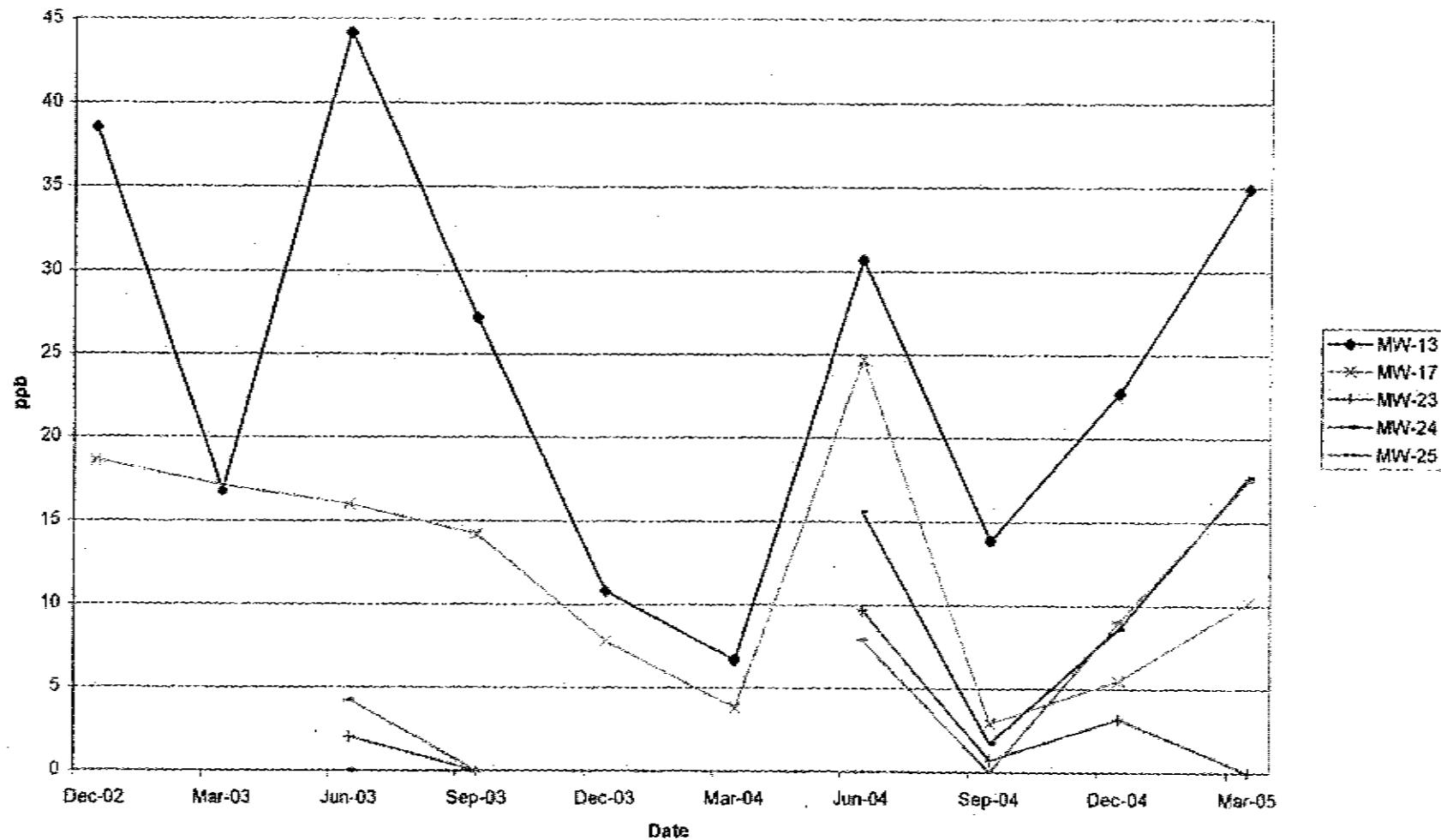
**Dissolved 1,1-DCE in 1st Water Wells**  
(excluding MW-18, MW-19 and MW-26 for smaller scale)



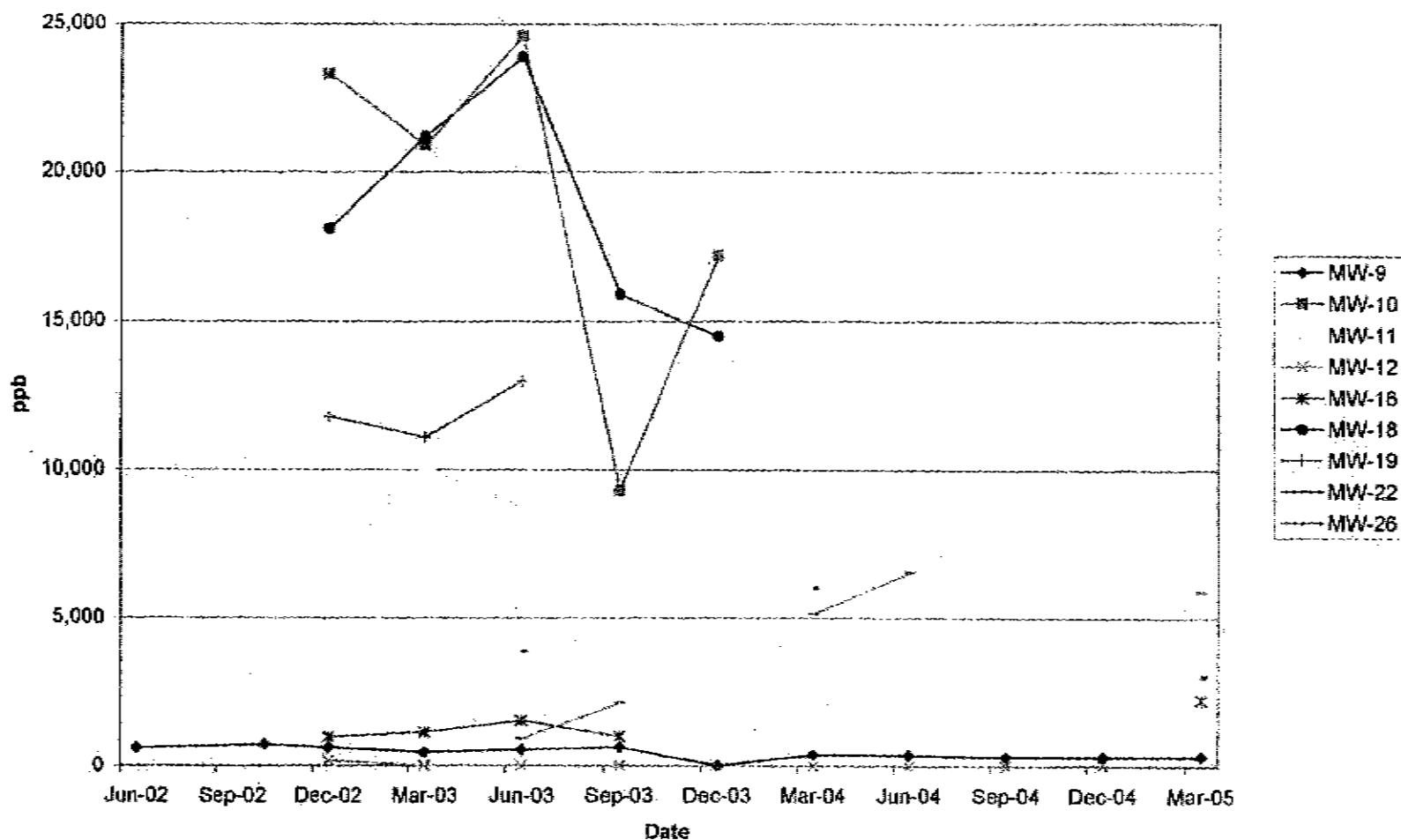
### Dissolved 1,1-DCE in A1 Wells



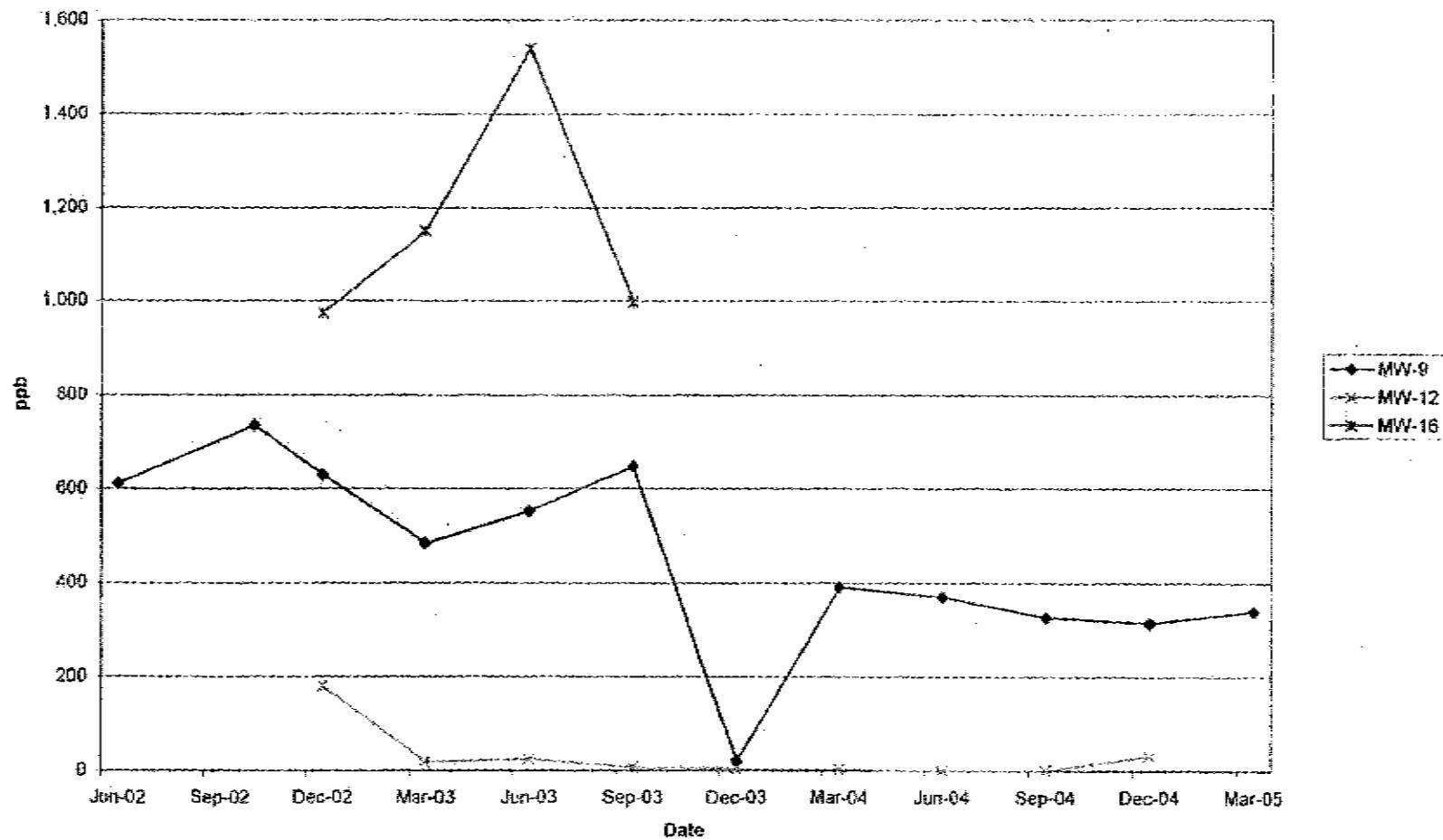
Dissolved 1,1-DCE in A1 Wells  
(excluding MW-14, MW-15, MW-20 and MW-21 for smaller scale)



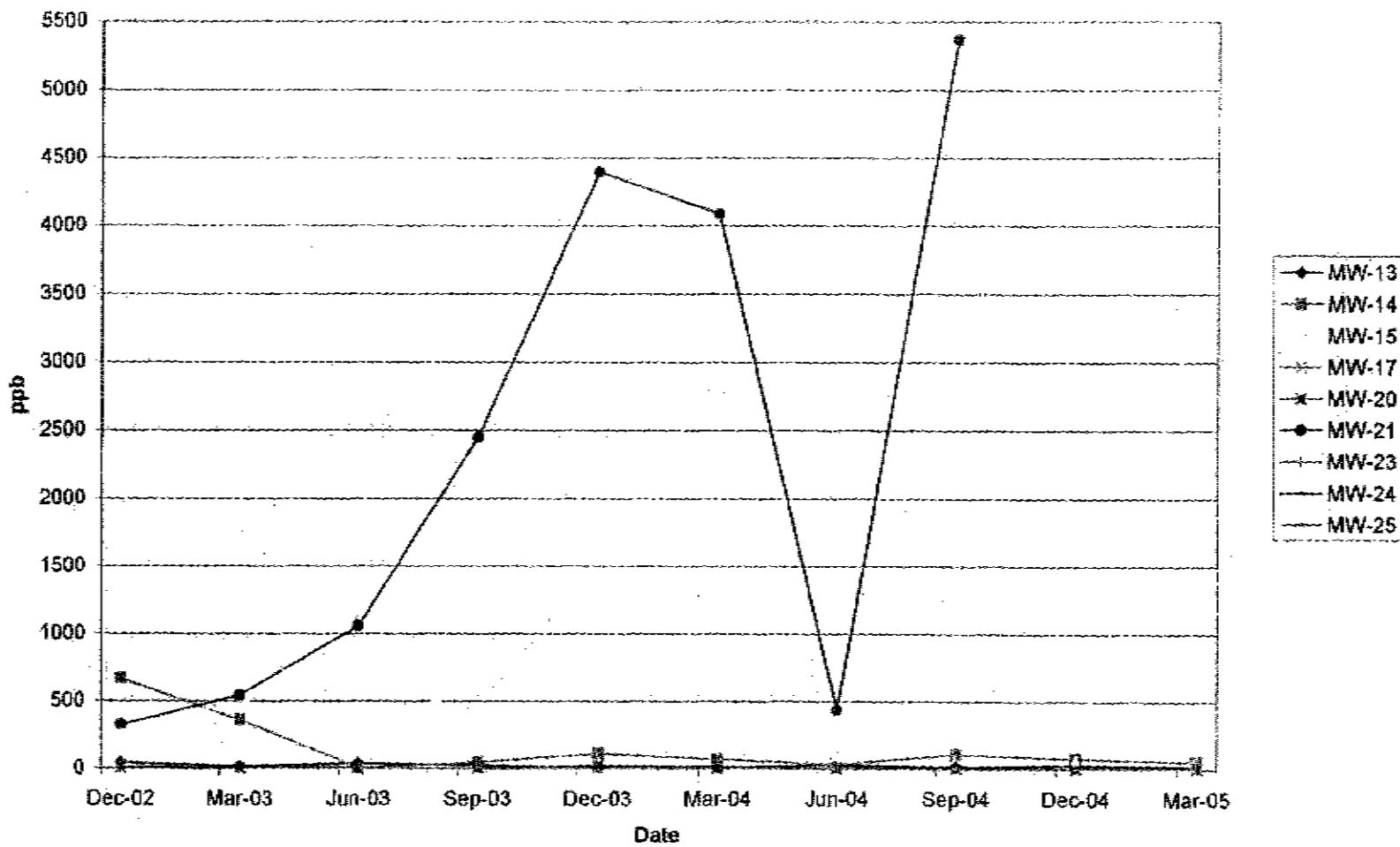
### Dissolved Cis-1,2-DCE in 1st Water Wells



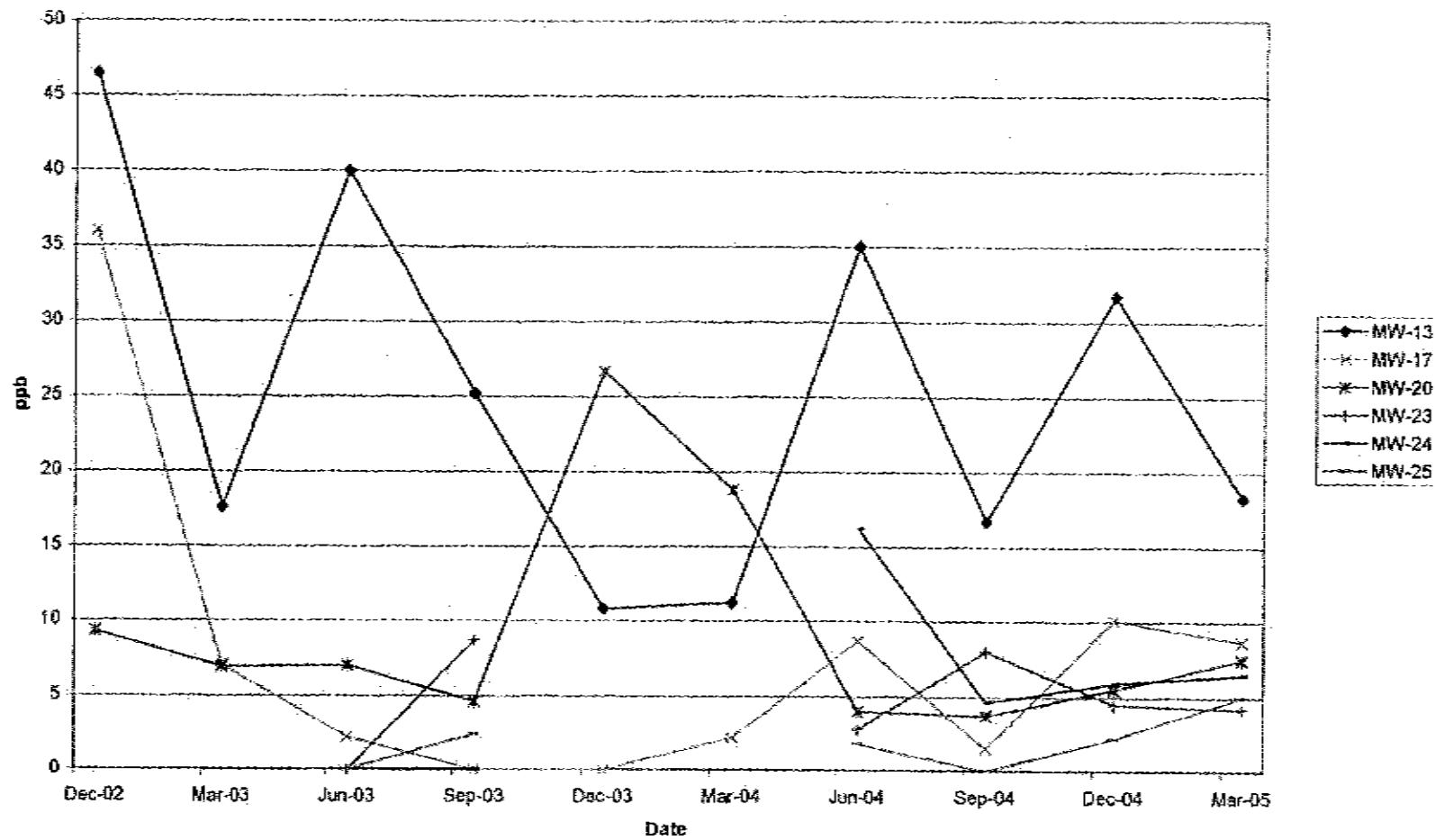
**Dissolved Cis-1,2-DCE in 1st Water Wells**  
(excluding MW-10, MW-11, MW-18, MW-19, MW-22 and MW-26 for smaller scale)



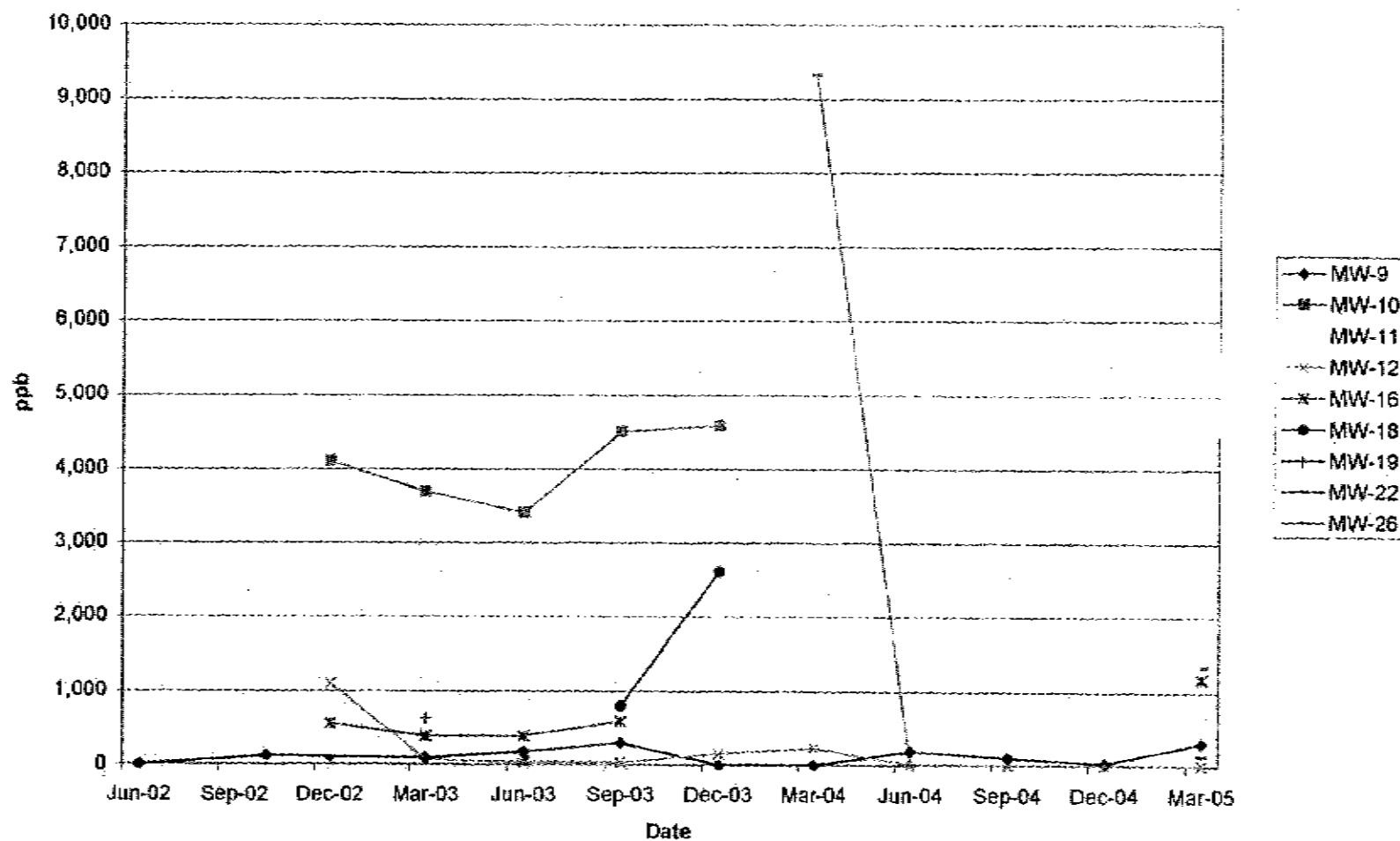
### Dissolved Cis-1,2-DCE in A1 Wells



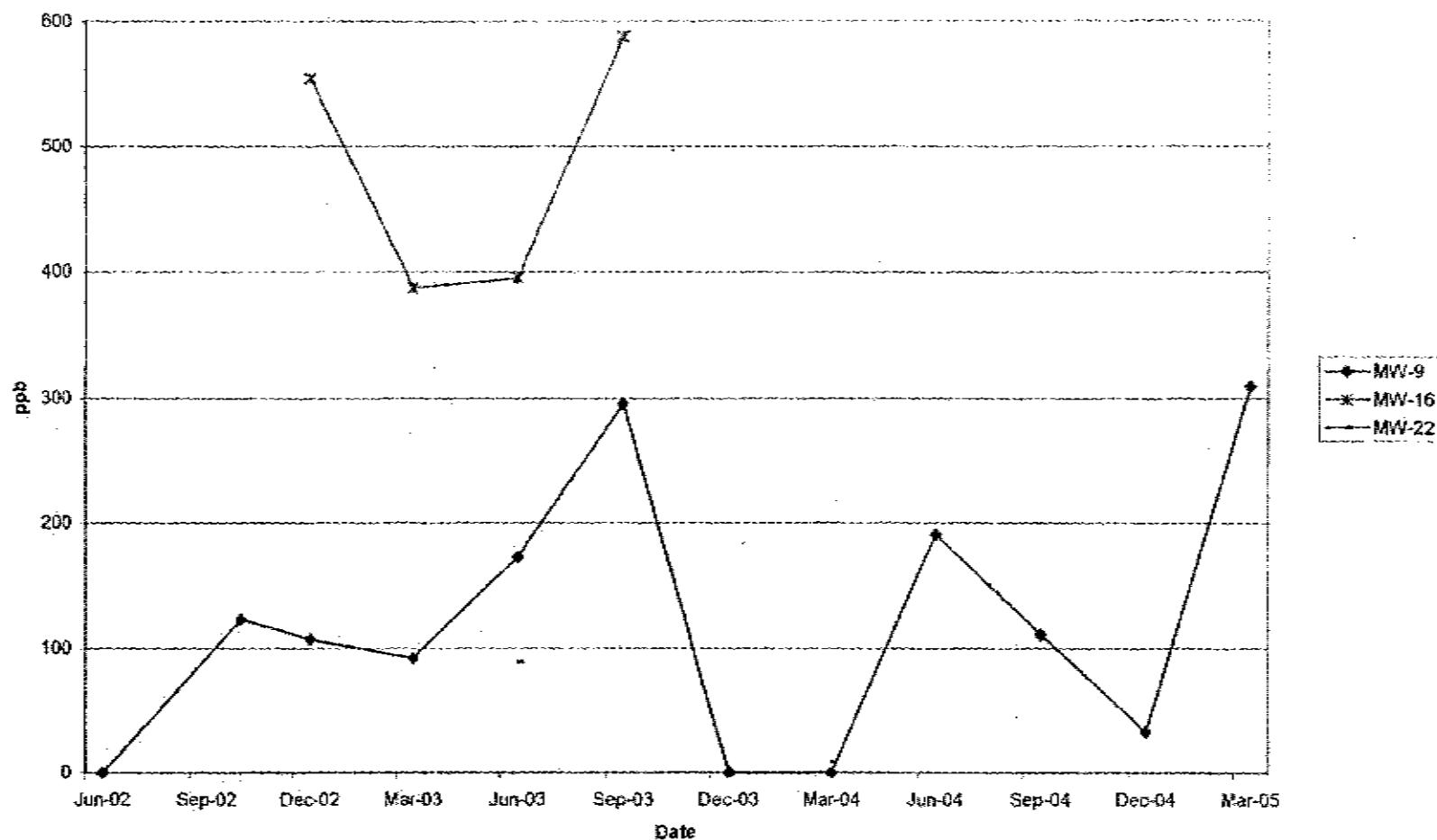
Dissolved Cis-1,2-DCE in A1 Wells  
(excluding MW-14, MW-15 and MW-21 for smaller scale)



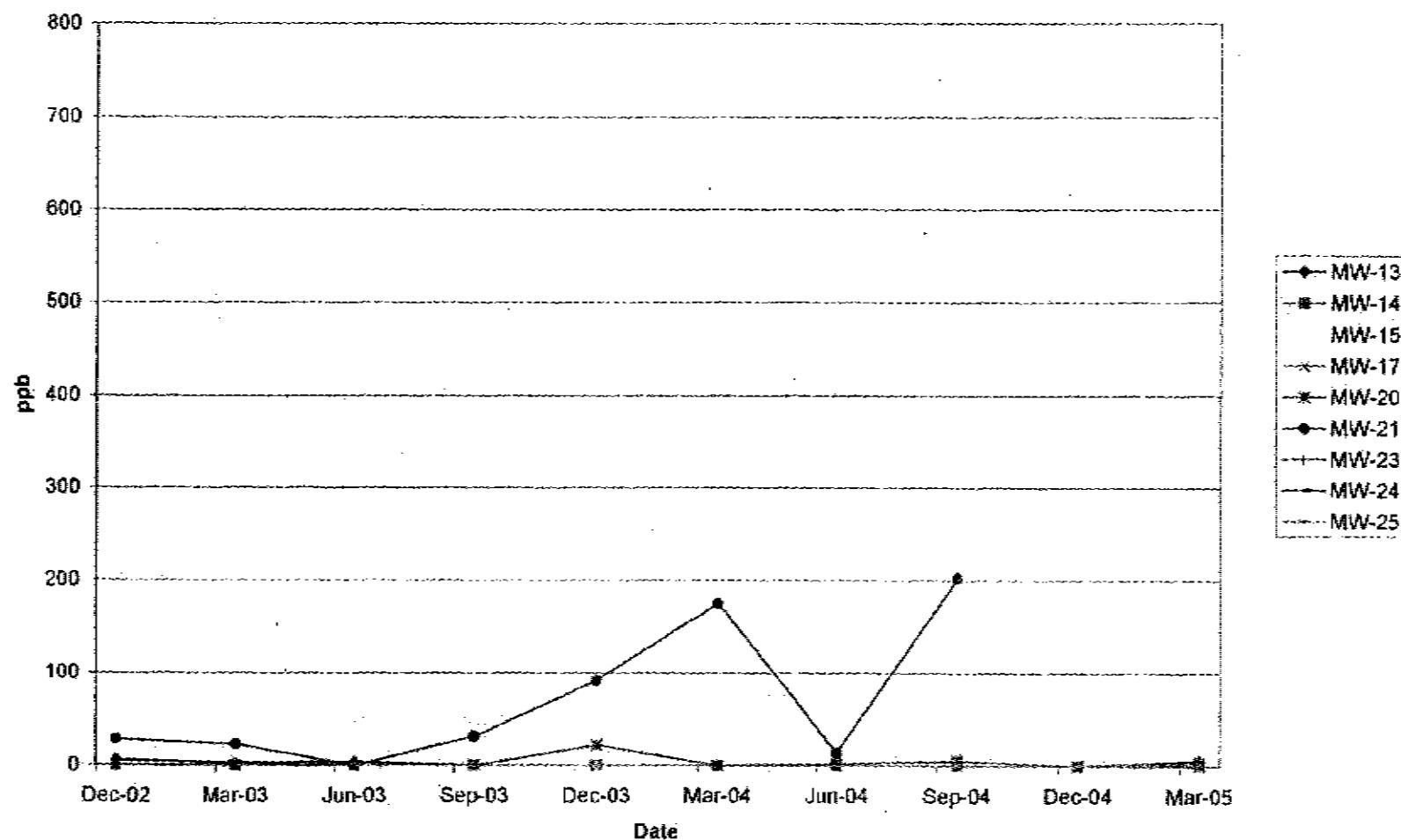
### Dissolved Vinyl Chloride in 1st Water



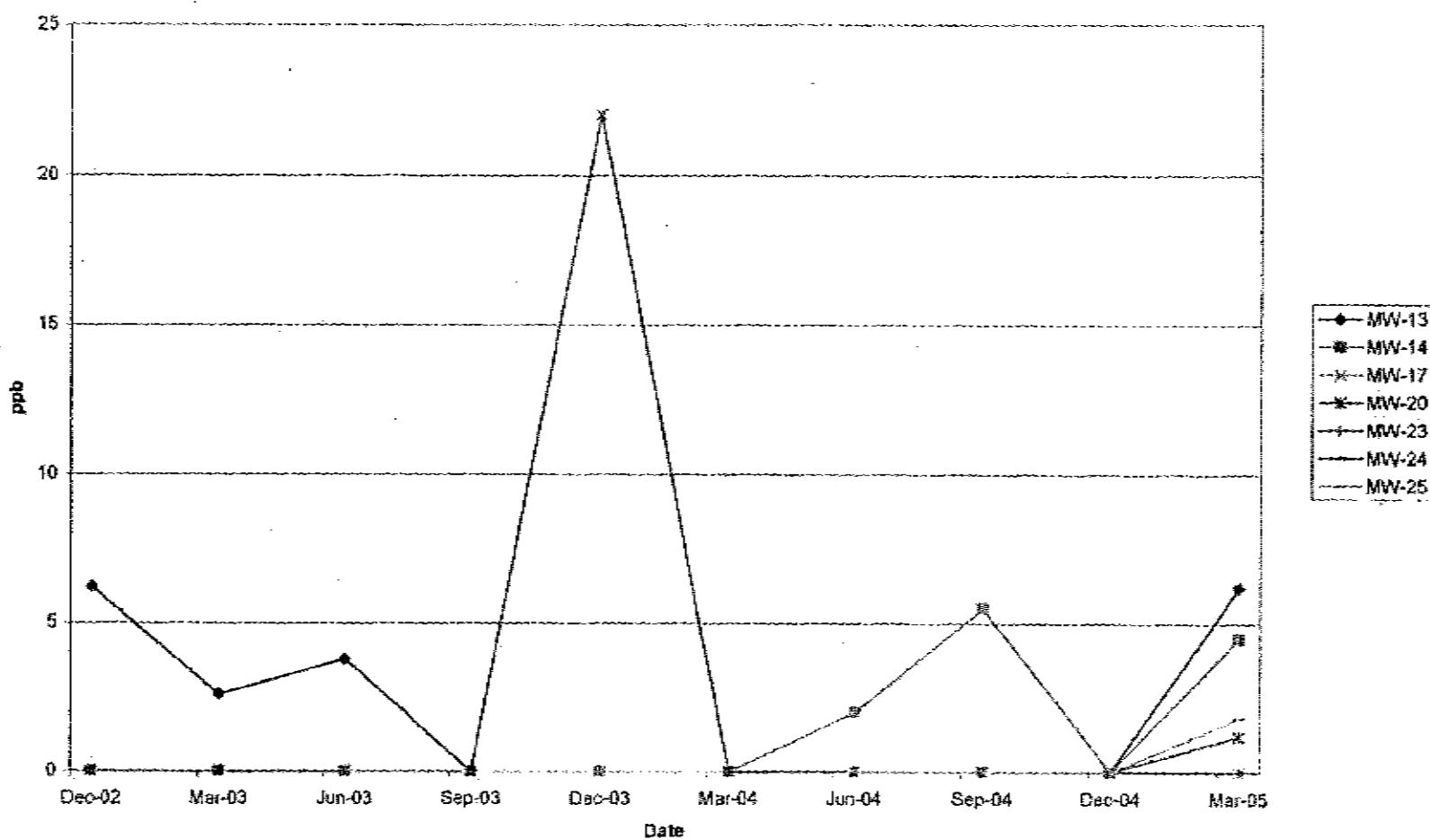
**Dissolved Vinyl Chloride in 1st Water**  
(excluding MW-10, MW-11, MW-12, MW-18, MW-19 and MW-26 for smaller scale)



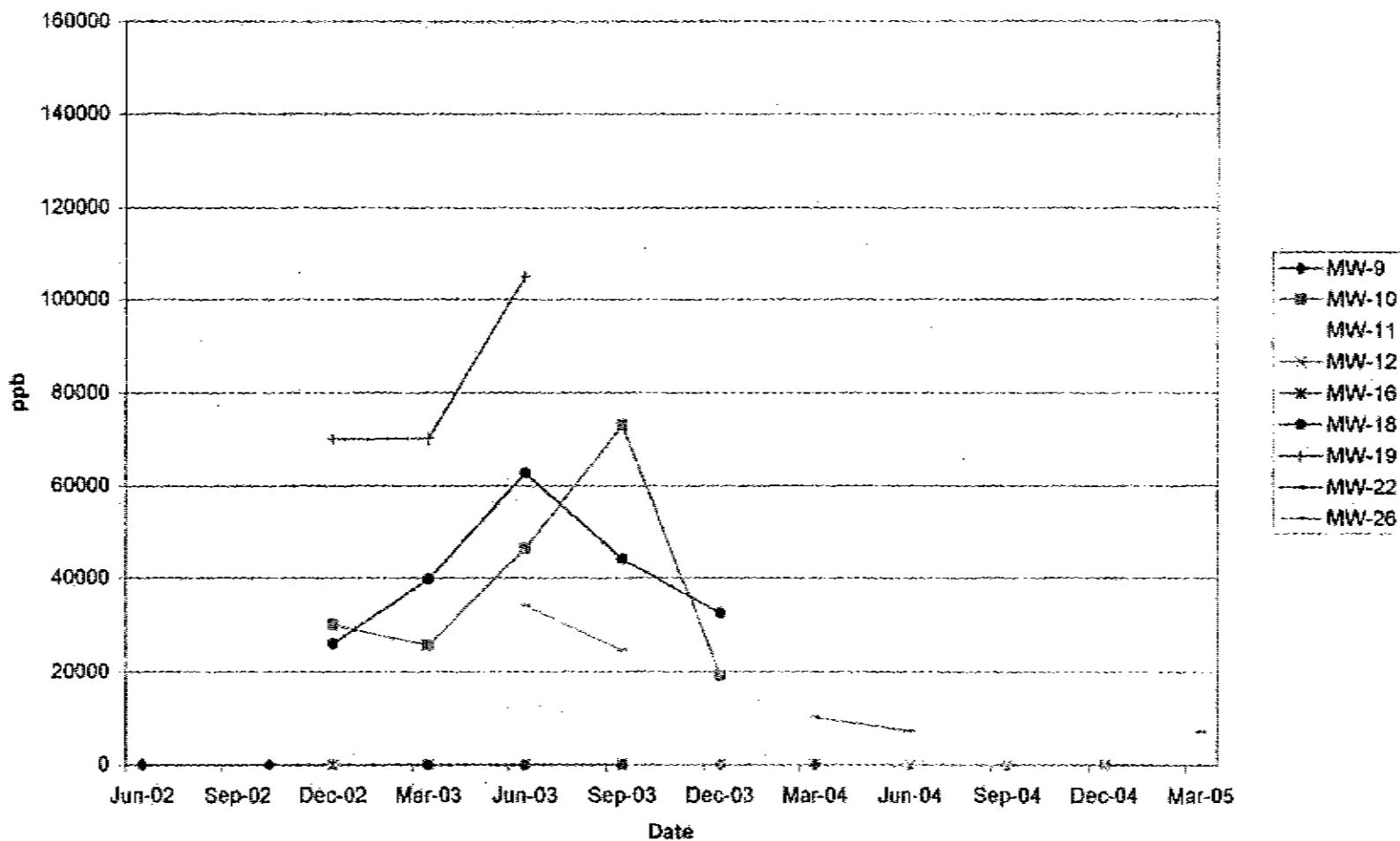
### Dissolved Vinyl Chloride in A1 Wells



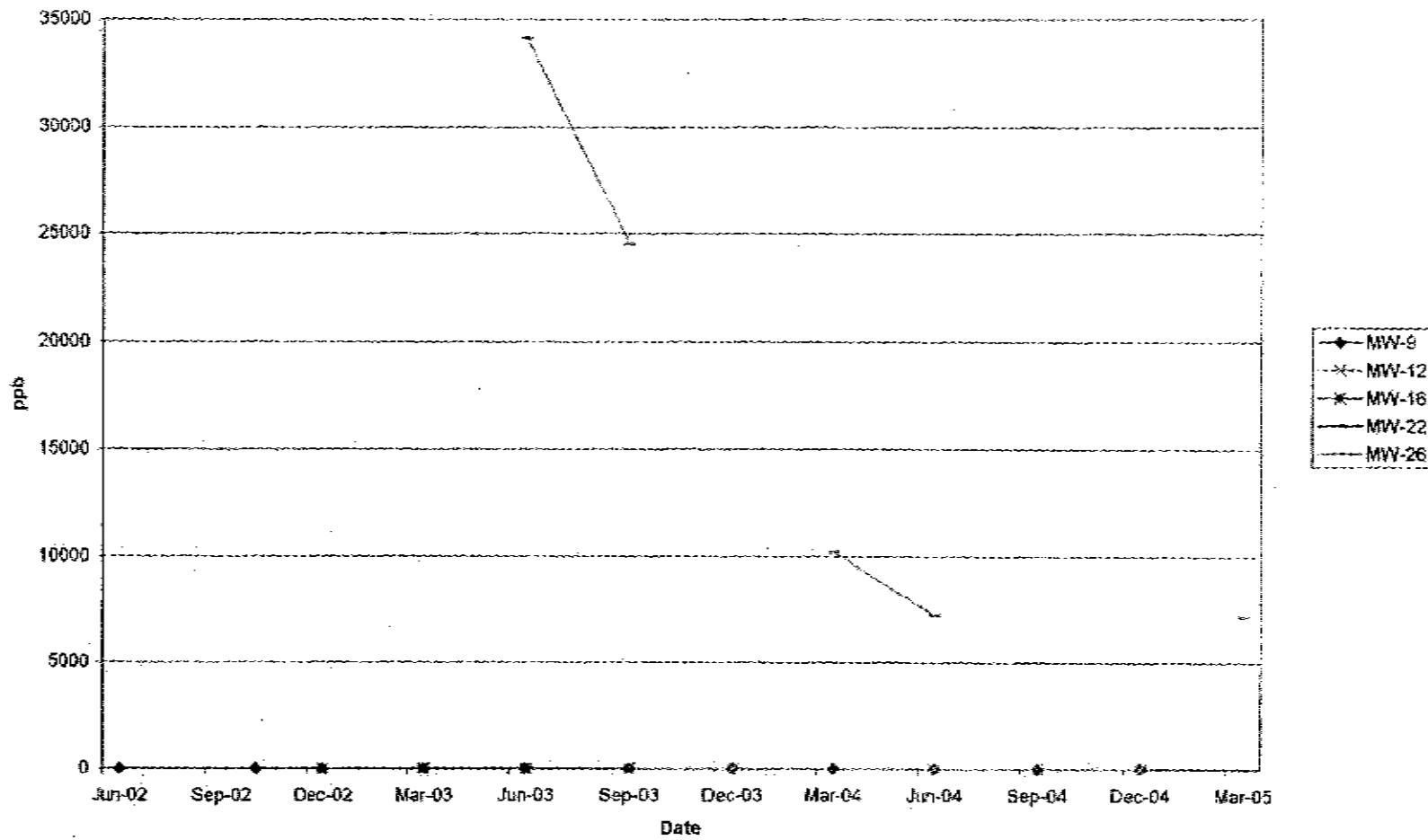
Dissolved Vinyl Chloride in A1 Wells  
(excluding MW-15 and MW-21 for smaller scale)



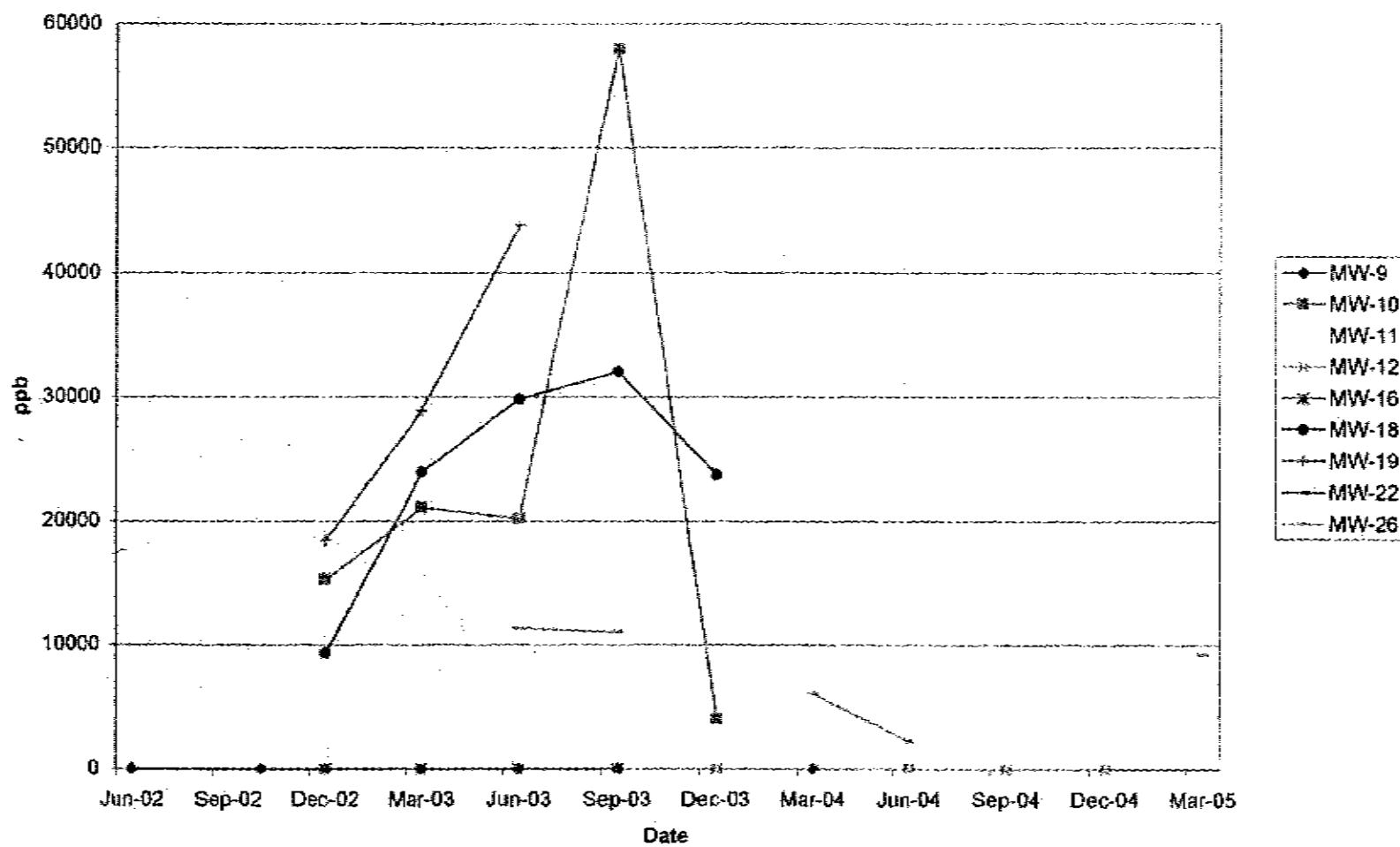
### Dissolved Acetone in 1st Water Wells



**Dissolved Acetone in 1st Water Wells**  
(excluding MW-10, MW-11, MW-18 and MW-19 for smaller scale)

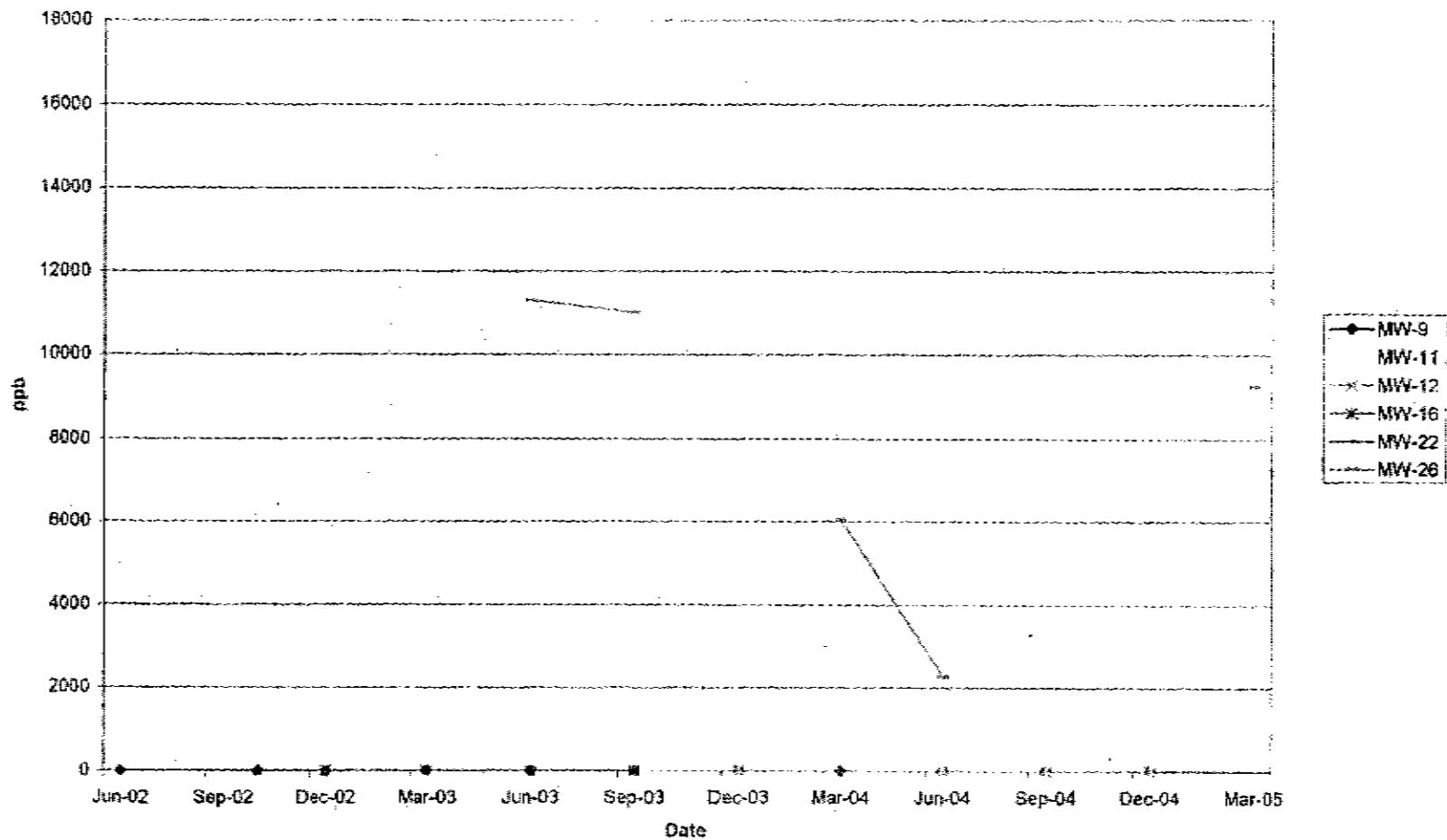


## Dissolved MEK in 1st Water Wells



ANCHÉMOSSE

**Dissolved MEK In 1st Water Wells**  
**(excluding MW-10, MW-18 and MW-19 for smaller scale)**



I Tabs Co. 1-800-322-3022

Recycled  Stock # Blakley-6-S

ANCHEM00871



# Southland Technical Services, Inc.

## Environmental Laboratories

03-22-2005

Ms. Windy Brown  
Clean Soils Inc.  
4359 Phelan Road  
Phelan, CA 92371

Project: Angeles Chemical Co.  
Project Site: 8915 Sorensen Ave., Santa Fe Springs, CA  
Sample Date: 03-11-2005  
Lab Job No.: BL503064

Dear Ms. Brown:

Enclosed please find the analytical report for the sample(s) received by STS Environmental Laboratories on 03-11-2005 and analyzed for the following parameters:

EPA 8015M (Gasoline)  
EPA 8260B (VOCs by GC/MS)  
EPA 160.1 (Total Dissolved Solids)  
EPA 352.1 (Nitrate)  
EPA 325.3 (Chloride)  
EPA 375.4 (Sulfate)  
EPA 376.1 (Sulfide)  
EPA 7380 (Total Iron) and Ferrous Iron  
Ethylene  
EPA 7460 (Manganese)  
EPA 310.1 (Alkalinity)  
Standard Method 4500 (Carbonate & Bicarbonate)  
EPA 415.1 (Total Organic Carbon, Dissolved Organic Carbon)  
Modified EPA 8270C (1,4-Dioxane by GC/MS)

The sample(s) arrived in good conditions (i.e., chilled, intact) and with a chain of custody record attached.

Chloride, sulfide, Alkalinity, Carbonate & Bicarbonate analyses were subcontracted to Americhem Testing Laboratory. TOC & DOC analyses were subcontracted to Associated Laboratories. Their original reports are attached.

STS Environmental Laboratory is certified by CA DHS (Certificate Number 1986). Thank you for giving us the opportunity to serve you. Please feel free to call me at (323) 888-0728 if our laboratory can be of further service to you.

Sincerely,

Roger Wang, Ph. D.  
Laboratory Director

Enclosures

ANCHEM0872

This cover letter is an integral part of this analytical report.



# **Southland Technical Services, Inc.**

**Environmental Laboratories**

03-22-2005

**Client:** Clean Soils Inc. **Lab Job No.:** BL503064  
**Project:** Angeles Chemical Co.  
**Project Site:** 8915 Sorensen Ave., Santa Fe Springs, CA **Date Sampled:** 03-11-2005  
**Matrix:** Water **Date Received:** 03-11-2005  
**Batch No.:** AMC14-GW1 **Date Analyzed:** 03-14-2005

**EPA 8015M (Gasoline)**  
**Reporting Units: µg/L (ppb)**

Sample ID	Lab ID	C4-C12 (Gasoline Range)	Method Detection Limit	PQL
Method Blank		ND	50	50
MW-8	BL503064-2	41,100	50	50
MW-9	BL503064-3	2,120	50	50
MW-11	BL503064-4	47,600	50	50
MW-12	BL503064-5	1,890	50	50
MW-13	BL503064-6	239	50	50
MW-14	BL503064-7	173	50	50
MW-15	BL503064-8	3,080	50	50
MW-16	BL503064-9	59,400	50	50
MW-17	BL503064-10	145	50	50
MW-20	BL503064-11	146	50	50
MW-22	BL503064-12	3,440	50	50
MW-23	BL503064-13	103	50	50
MW-24	BL503064-14	134	50	50
MW-25	BL503064-15	181	50	50
MW-26	BL503064-16	75,600	50	50

PQL: Practical Quantitation Limit.

ANCHEM0873



# Southland Technical Services, Inc.

## Environmental Laboratories

03-22-2005

Client: Clean Soils Inc. Lab Job No.: BL503064  
Project: Angeles Chemical Co.  
Project Site: 8915 Sorenson Ave., Santa Fe Springs, CA Date Sampled: 03-11-2005  
Matrix: Water Date Received: 03-11-2005

### Analytical Test Results

Analyte	EPA Method	Date Analyzed	Reporting Unit	MW-8	MW-9	MW-11	MW-12	MW-13	Reporting Limit
Ethylene	GC/FID	03-14-05	ug/L	1,070	32	2,011	5	ND	5
TDS	160.1	03-14-05	mg/L	858	1,650	2,170	551	988	2
Nitrate	352.1	03-14-05	mg/L	8.63	11.6	9.57	ND	11.9	0.01
Sulfate	375.4	03-14-05	mg/L	ND	141	ND	32.2	84.4	1.0
Total Iron	7380	03-15-05	mg/L	1.27	ND	1.87	0.25	ND	0.1
Manganese	7460	03-15-05	mg/L	4.07	0.49	15.0	2.52	ND	0.05
Ferrous Iron	Colorimetry	03-14-05	mg/L	0.22	ND	ND	0.25	ND	0.05

Analyte	EPA Method	Date Analyzed	Reporting Unit	MW-14	MW-15	MW-16	MW-17	MW-20	Reporting Limit
Ethylene	GC/FID	03-14-05	ug/L	ND	31.5	215	ND	ND	5
TDS	160.1	03-14-05	mg/L	1,140	1,030	1,240	1,210	934	2
Nitrate	352.1	03-14-05	mg/L	17.7	19.2	9.61	11.9	20.6	0.01
Sulfate	375.4	03-14-05	mg/L	121	40.4	25.8	110	36.6	1.0
Total Iron	7380	03-15-05	mg/L	ND	0.11	0.27	ND	ND	0.1
Manganese	7460	03-15-05	mg/L	ND	3.19	3.77	ND	0.33	0.05
Ferrous Iron	Colorimetry	03-14-05	mg/L	ND	0.13	ND	ND	ND	0.05

ND: Not Detected (at the specified limit).

ANCHEM0874



# Southland Technical Services, Inc.

Environmental Laboratories

03-22-2005

Client: Clean Soils Inc. Lab Job No.: BL503064  
Project: Angeles Chemical Co.  
Project Site: 8915 Sorensen Ave., Santa Fe Springs, CA Date Sampled: 03-11-2005  
Matrix: Water Date Received: 03-11-2005

## Analytical Test Results

Analyte	EPA Method	Date Analyzed	Reporting Unit	MW-22	MW-26					Reporting Limit
Ethylene	GC/FID	03-14-05	ug/L	ND	ND					5
TDS	160.1	03-14-05	mg/L	763	1,140					2
Nitrate	352.1	03-14-05	mg/L	ND	ND					0.01
Sulfate	375.4	03-14-05	mg/L	18.1	19.5					1.0
Total Iron	7380	03-15-05	mg/L	0.28	0.11					0.1
Manganese	7460	03-15-05	mg/L	1.40	6.45					0.05
Ferrous Iron	Colorimetry	03-14-05	mg/L	ND	0.07					0.05

ND: Not Detected (at the specified limit).

ANCHEM0875



# **Southland Technical Services, Inc.**

**Environmental Laboratories**

03-22-2005

Client:	Clean Soils Inc.	Lab Job No.:	BL503064
Project:	Angeles Chemical Co.		
Project Site:	8915 Sorenson Ave., Santa Fe Springs, CA	Date Sampled:	03-11-2005
Matrix:	Water	Date Received:	03-11-2005
Batch No.:	0315-BNA	Date Analyzed:	03-15-2005

**Modified EPA 8270C (1,4-Dioxane by GC/MS)**  
**Reporting Units: µg/L (ppb)**

Sample ID	Lab ID	1,4-Dioxane	Method Detection Limit	PQL
Method Blank		ND	2	3.0
MW-8	BL503064-2	101	2	3.0
MW-9	BL503064-3	2,670	2	3.0
MW-11	BL503064-4	847	2	3.0
MW-12	BL503064-5	ND	2	3.0
MW-13	BL503064-6	ND	2	3.0
MW-14	BL503064-7	63.9	2	3.0
MW-15	BL503064-8	336	2	3.0
MW-16	BL503064-9	16.6	2	3.0
MW-17	BL503064-10	ND	2	3.0
MW-20	BL503064-11	7.9	2	3.0
MW-22	BL503064-12	123	2	3.0
MW-26	BL503064-16	311	2	3.0

ND: Not Detected (at the specified limit)

ANCHEM0876



# Southland Technical Services, Inc.

Environmental Laboratories

Client: Clean Soils Inc.  
Project: Angeles Chemical Co.

Lab Job No.: BL503064  
Matrix: Water

Date Reported: 03-22-2005  
Date Sampled: 03-11-2005

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE ANALYZED	03-14	03-14-05	03-14-05	03-14-05	03-14-05	03-14-05	03-14-05
DILUTION FACTOR		50	100	2.5	100	2.5	1
LAB SAMPLE I.D.		BL503064-1	BL503064-2	BL503064-3	BL503064-4	BL503064-5	BL503064-6
CLIENT SAMPLE I.D.		MW-1	MW-8	MW-9	MW-11	MW-12	MW-13
COMPOUND	MDL	PQL	ME				
Dichlorodifluoromethane	2	5	ND	ND	ND	ND	ND
Chloromethane	2	5	ND	ND	ND	ND	ND
Vinyl Chloride	1	2	ND	1,340	1,340	310	1,280
Bromomethane	2	5	ND	ND	ND	ND	ND
Chloroethane	2	5	ND	3,150	143	6.8 j	12,410
Trichlorofluoromethane	2	5	ND	ND	ND	ND	ND
1,1-Dichloroethene	2	5	ND	438	1,690	1,240	339
Iodomethane	2	5	ND	ND	ND	ND	ND
Methylene Chloride	2	5	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	2	5	ND	ND	ND	ND	ND
1,1-Dichloroethane	1	2	ND	34,500*	22,300*	1,230	34,800
2,2-Dichloropropane	2	5	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	2	5	ND	3,350*	5,080	340	3,540
Bromochloromethane	2	5	ND	ND	ND	ND	ND
Chloroform	2	5	ND	ND	ND	ND	ND
1,2-Dichloroethane	2	5	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	2	5	ND	175	321	14.4	158
Carbon tetrachloride	2	5	ND	ND	ND	ND	ND
1,1-Dichloropropene	2	5	ND	ND	ND	ND	ND
Benzene	1	1	ND	450	234	28.0	423
Trichloroethene	2	2	ND	ND	ND	ND	ND
1,2-Dichloropropane	2	5	ND	ND	ND	ND	ND
Bromodichloromethane	2	5	ND	ND	ND	ND	ND
Dibromomethane	2	5	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	2	5	ND	ND	ND	ND	ND
1,3-Dichloropropane	2	5	ND	ND	ND	ND	ND
Dibromochloromethane	2	5	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	2	5	ND	ND	ND	ND	ND
Bromoform	2	5	ND	ND	ND	ND	ND
Isopropylbenzene	2	5	ND	ND	ND	ND	ND
Bromobenzene	2	5	ND	ND	ND	ND	ND



**Southland Technical Services, Inc.**  
Environmental Laboratories

Client: Clean Soils Inc.  
Project: Angeles Chemical Co.

Lab Job No.: BL503064  
Matrix: Water

Date Reported: 03-22-2005  
Date Sampled: 03-11-2005

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-1	MW-8	MW-9	MW-11	MW-12	MW-13
Toluene	1	1	ND	7,680*	6,170	4.8	6,380	ND	ND
Tetrachloroethene	2	2	ND	ND	ND	98.6	ND	5.4	56.9
1,2-Dibromoethane(EDB)	2	5	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	2	5	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1	1	ND	975	1,270	ND	860	61.0	ND
Total Xylenes	1	1	ND	2,630*	4,590	5.5	2,420	53.2	ND
Styrene	2	5	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	2	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	2	5	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	2	5	ND	295	117	ND	220 j	122	ND
2-Chlorotoluene	2	5	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	2	5	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	2	5	ND	500	379	ND	488	173	ND
tert-Butylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	2	5	ND	1,530	2,420	ND	1,540	211	ND
Sec-Butylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	2	5	ND	ND	ND	ND	ND	3.8	ND
1,4-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	2	5	ND	ND	ND	ND	ND	13.9	ND
1,2,4-Trichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	2	5	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	2	5	ND	ND	ND	ND	ND	ND	ND
Naphthalene	2	5	ND	ND	440	ND	ND	44.2	ND
1,2,3-Trichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
Acetone	3	25	ND	154,000*	ND	ND	151,000	ND	ND
2-Butanone (MEK)	5	25	ND	22,300	ND	ND	18,000	ND	ND
Carbon disulfide	3	25	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	5	25	ND	1,450	ND	ND	1,200 j	ND	ND
2-Hexanone	5	25	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	5	25	ND	ND	ND	ND	ND	ND	ND
MTBE	2	2	ND	ND	ND	ND	ND	ND	ND
ETBE	2	2	ND	ND	ND	ND	ND	ND	ND
DIPB	2	2	ND	ND	ND	ND	ND	ND	ND
TAME	2	2	ND	ND	ND	ND	ND	ND	ND
t-Butyl Alcohol	10	10	ND	ND	ND	ND	ND	ND	ND

MDL=Method Detection Limit; PQL=Practical Quantitation Limit; MB=Method Blank; ND=Not Detected (below DF \* MDL), j=trace concentration.



# Southland Technical Services, Inc.

## Environmental Laboratories

Client: Clean Soils Inc.  
Project: Angeles Chemical Co.

Lab Job No.: BL503064  
Matrix: Water

Date Reported: 03-22-2005  
Date Sampled: 03-11-2005

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE ANALYZED	03-13	03-13-05	03-13-05	03-13-05	03-13-05	03-13-05	03-13-05
DILUTION FACTOR		1	1	25	1	1	20
LAB SAMPLE I.D.		BL503064-7	BL503064-8	BL503064-9	BL503064-10	BL503064-11	BL503064-12
CLIENT SAMPLE I.D.		MW-14	MW-15	MW-16	MW-17	MW-20	MW-22
COMPOUND	MDL	PQL	MB				
Dichlorodifluoromethane	2	5	ND	ND	ND	ND	ND
Chloromethane	2	3	ND	ND	ND	ND	ND
Vinyl Chloride	1	2	ND	4.5	724	1,180	ND
Bromomethane	2	5	ND	ND	ND	ND	ND
Chloroethane	2	5	ND	ND	10.9	126	ND
Trichlorofluoromethane	2	5	ND	ND	ND	ND	ND
1,1-Dichloroethene	2	5	ND	140	945*	1,840	10.2
Iodomethane	2	5	ND	ND	ND	ND	ND
Methylene Chloride	2	5	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	2	5	ND	ND	ND	ND	ND
1,1-Dichloroethane	1	2	ND	63.6	693*	3,030	ND
2,2-Dichloropropane	2	5	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	2	5	ND	55.3	3,450*	2,260	8.7
Bromochloromethane	2	5	ND	ND	ND	ND	ND
Chloroform	2	5	ND	ND	ND	ND	ND
1,2-Dichloroethane	2	5	ND	ND	43.0	ND	ND
1,1,1-Trichloroethane	2	5	ND	ND	50.1	ND	ND
Carbon tetrachloride	2	5	ND	ND	ND	ND	ND
1,1-Dichloropropene	2	5	ND	ND	ND	ND	ND
Benzene	1	1	ND	1.1	22.4	61.3	ND
Trichloroethene	2	2	ND	9.6	49.7	164	23.8
1,2-Dichloropropene	2	5	ND	ND	ND	ND	ND
Bromodichloromethane	2	5	ND	ND	ND	ND	ND
Dibromomethane	2	5	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	2	5	ND	ND	ND	ND	ND
1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND
Dibromochloromethane	2	5	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	2	5	ND	ND	ND	ND	ND
Bromoform	2	5	ND	ND	ND	ND	ND
Isopropylbenzene	2	5	ND	ND	ND	ND	ND
Bromobenzene	2	5	ND	ND	ND	ND	ND



# Southland Technical Services, Inc.

## Environmental Laboratories

Client: Clean Soils Inc.  
Project: Angeles Chemical Co.

Lab Job No.: BL503064  
Matrix: Water

Date Reported: 03-22-2005  
Date Sampled: 03-11-2005

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-14	MW-15	MW-16	MW-17	MW-20	MW-22
Toluene	1	1	ND	ND	42.2	62.5	ND	ND	22.8
Tetrachloroethene	2	2	ND	23.7	87.6	88.8	117	108	ND
1,2-Dibromoethane(EDB)	2	5	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	2	5	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1	1	ND	ND	2.4	342	ND	ND	ND
Total Xylenes	1	1	ND	ND	10.0	544	ND	ND	ND
Styrene	2	5	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	2	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropene	2	5	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	2	5	ND	ND	ND	81.0	ND	ND	ND
2-Chlorotoluene	2	5	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	2	5	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	2	5	ND	ND	ND	411	ND	ND	ND
tert-Butylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzenes	2	5	ND	ND	ND	3,250	ND	ND	ND
Sec-Butylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	2	5	ND	ND	ND	40.0	ND	ND	ND
1,4-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	2	5	ND	ND	ND	258	ND	ND	ND
1,2,4-Trichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	2	5	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	2	5	ND	ND	ND	ND	ND	ND	ND
Naphthalene	2	5	ND	ND	ND	909	ND	ND	ND
1,2,3-Trichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
Acetone	5	25	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	5	25	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	5	25	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	5	25	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	5	25	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	5	25	ND	ND	ND	ND	ND	ND	ND
MTBE	2	2	ND	ND	ND	ND	ND	ND	ND
ETBE	2	2	ND	ND	ND	ND	ND	ND	ND
DPE	2	2	ND	ND	ND	ND	ND	ND	ND
TAME	2	2	ND	ND	ND	ND	ND	ND	ND
T-Butyl Alcohol	10	10	ND	158?	1,290	ND	ND	ND	ND

MDL=Method Detection Limit; PQL=Practical Quantitation Limit; MB=Method Blank; ND=Not Detected (below DF \* MDL); j=trace concentration.



# Southland Technical Services, Inc.

Environmental Laboratories

Client: Clean Soils Inc.  
Project: Angeles Chemical Co.

Lab Job No.: BL503064  
Matrix: Water

Date Reported: 03-22-2005  
Date Sampled: 03-11-2005

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE ANALYZED	03-15	03-15-03	03-15-05	03-15-05	03-15-05	03-15-05	03-15-05
DIILUTION FACTOR		1	1	1	50	1	1
LAB SAMPLE ID.		BL503064-13	BL503064-14	BL503064-15	BL503064-16	BL503064-17	BL503064-18
CLIENT SAMPLE ID.		MW-23	MW-24	MW-25	MW-26	EB-1	TB-1
COMPOUND	MDL	PQL	MB				
Dichlorodifluoromethane	2	5	ND	ND	ND	ND	ND
Chloromethane	2	5	ND	ND	ND	ND	ND
Vinyl Chloride	1	2	ND	ND	ND	1.8	138
Bromomethane	2	5	ND	ND	ND	ND	ND
Chloroethane	2	5	ND	ND	ND	ND	ND
Trichlorofluoromethane	2	5	ND	4.1	7.0	24.4	122
1,1-Dichloroethene	2	5	ND	ND	17.7	17.5	8,040
Iodomethane	2	5	ND	ND	ND	ND	ND
Methylene Chloride	2	5	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	2	5	ND	ND	ND	ND	ND
1,1-Dichloroethane	1	2	ND	9.4	2.3	ND	1,670
2,2-Dichloropropane	2	5	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	2	5	ND	4.2	6.5	5.0	3,900
Bromoform	2	5	ND	ND	ND	ND	ND
1,2-Dichloroethane	2	5	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	2	5	ND	ND	ND	ND	ND
Carbon tetrachloride	2	5	ND	ND	ND	ND	ND
1,1-Dichloropropene	2	5	ND	ND	ND	ND	ND
Benzene	1	1	ND	ND	ND	174	ND
Trichloroethene	2	2	ND	33.3	51.9	101	3,560
1,2-Dichloropropane	2	5	ND	ND	ND	ND	ND
Bromodichloromethane	2	5	ND	ND	ND	ND	ND
Dibromomethane	2	5	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	2	5	ND	ND	ND	ND	ND
1,3-Dichloropropane	2	5	ND	ND	ND	ND	ND
Dibromochloromethane	2	5	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	2	5	ND	ND	ND	ND	ND
Bromoform	2	5	ND	ND	ND	ND	ND
Isopropylbenzene	2	5	ND	ND	ND	ND	ND
Bromobenzene	2	5	ND	ND	ND	ND	ND



**Southland Technical Services, Inc.**  
Environmental Laboratories

Client: Clean Soils Inc.  
Project: Angeles Chemical Co.

Lab Job No.: BL503064  
Matrix: Water

Date Reported: 03-22-2005  
Date Sampled: 03-11-2005

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-23	MW-24	MW-25	MW-26	EB-1	TB-1
Toluene	1	1	ND	ND	ND	ND	16,900	ND	ND
Tetrachloroethene	2	2	ND	69.1	74.7	48.6	2,840	ND	ND
1,2-Dibromoethane(EDB)	2	5	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	2	5	ND	ND	ND	ND	ND	ND	SD
Ethylbenzene	1	1	ND	ND	ND	ND	3,060	ND	ND
Total Xylenes	1	1	ND	ND	ND	ND	9,530	ND	ND
Styrene	2	5	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	2	5	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	2	5	ND	ND	ND	ND	ND	ND	ND
m-Propylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	2	5	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	2	5	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	2	5	ND	ND	ND	ND	218 J	ND	ND
t-Butylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	2	5	ND	ND	ND	ND	984	ND	ND
Sec-Butylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	2	5	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
m-Butylbenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	2	5	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	2	5	ND	ND	ND	ND	ND	ND	ND
Naphthalene	2	5	ND	ND	ND	ND	150 J	ND	ND
1,2,3-Trichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
Acetone	5	25	ND	ND	ND	ND	7,170	ND	ND
2-Butanone (MEK)	5	25	ND	ND	ND	ND	9,250	ND	ND
Carbon disulfide	5	25	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	5	25	ND	ND	ND	ND	5,550	ND	ND
2-Hexanone	5	25	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	5	25	ND	ND	ND	ND	ND	ND	ND
MTBE	2	2	ND	ND	ND	ND	ND	ND	ND
ETBE	2	2	ND	ND	ND	ND	ND	ND	ND
DIPE	2	2	ND	ND	ND	ND	ND	ND	ND
TAME	2	2	ND	ND	ND	ND	ND	ND	ND
t-Butyl Alcohol	10	10	ND	ND	ND	ND	ND	ND	ND

MDL=Method Detection Limit; PQL=Practical Quantitation Limit; MB=Method Blank; ND=Not Detected (below DF x MDL); J=trace concentration.



# **Southland Technical Services, Inc.**

**Environmental Laboratories**

03-22-2005

## **EPA 8015M**

### **Batch QA/QC Report**

Client:	Clean Soils Inc.	Lab Job No.:	BL503064
Project:	Angeles Chemical Co.	Lab Sample ID:	BL503064-17
Matrix:	Water	Date Analyzed:	03-14-2005
Batch No.:	AMC14-GW1		

#### **I. MS/MSD Report**

Unit ppb

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
TPH-g	ND	1000	907	978	90.7	97.8	7.5	30	70-130

#### **II. LCS Result**

Unit ppb

Analyte	LCS Report Value	True Value	Rec.%	Accept. Limit
TPH-g	1,070	1,000	107.0	80-120

ND: Not Detected



# **Southland Technical Services, Inc.**

**Environmental Laboratories**

03-22-2005

## **Modified EPA 8270C (1,4-Dioxane by GC/MS) Batch QA/QC Report**

Client:	Clean Soils Inc.	Lab Job No.:	BL503064
Project:	Angeles Chemical Co.	Lab Sample ID:	ST0315-1
Matrix:	Water	Date Analyzed:	03-15-2005
Batch No.:	0315-BNA		

### **LCS/LCSD Result Unit: ppb**

Analyte	Sample Conc.	Spike Conc.	LCS	LCSD	LCS %Rec.	LCSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
1,4-Dioxane	ND	10.0	9.5	10.8	95.0	108.0	12.8	30	70-130

ND:Not Detected



# **Southland Technical Services, Inc.**

**Environmental Laboratories**

03-22-2005

## **EPA 8260B Batch QA/QC Report**

Client: Clean Soils Inc.  
Project: Angeles Chemical Co.  
Matrix: Water  
Batch No: 0314-VOAW

Lab Job No.: BL503064  
Lab Sample ID: BL503064-17  
Date Analyzed: 03-14-2005

### **I. MS/MSD Report Unit: ppb**

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
1,1-Dichloroethene	ND	20	16.4	18.5	82.0	92.5	12.0	30	70-130
Benzene	ND	20	17.7	19.6	88.5	98.0	10.2	30	70-130
Trichloro-ethene	ND	20	15.6	17.5	78.0	87.5	11.5	30	70-130
Toluene	ND	20	17.4	19.2	87.0	96.0	9.8	30	70-130
Chlorobenzene	ND	20	17.3	18.7	86.5	93.5	7.8	30	70-130

### **II. LCS Result Unit: ppb**

Analyte	LCS Value	True Value	Rec.%	Accept. Limit
1,1-Dichloroethene	18.5	20.0	92.5	80-120
Benzene	19.3	20.0	96.5	80-120
Trichloro-ethene	18.6	20.0	93.0	80-120
Toluene	18.1	20.0	90.5	80-120
Chlorobenzene	18.9	20.0	94.5	80-120

ND: Not Detected.



**Southland Technical Services, Inc.**  
Environmental Laboratories

03-22-2005

**Ethylene by GC/FID  
Batch QA/QC Report**

Client:	Clean Soils Inc.	Lab Job No.:	BL503064
Project:	Angeles Chemical Co.		
Matrix:	Water	Lab Sample ID:	BL503064-4
Batch No.:	FC14E	Date Analyzed:	03-14-2005

**I. Sample/Sample Dup Report**  
Reporting Units:  $\mu\text{g/L}$

Analyte	MB	Sample Conc.	Sample Duplicate	% RPD	%RPD Accept. Limit
Ethylene	ND	215	249	14.7	30

**II. LCS Result**  
Reporting Units:  $\mu\text{g/L}$

Analyte	LCS Report Value	True Value	Rec.%	Accept. Limi
Ethylene	4,380	4,170	105.0	80-120

ND: Not Detected.

## SOUTHLAND TECHNICAL SERVICES, INC.

## CHAIN OF CUSTODY RECORD

Page 1 of 2Lab Job Number BL523064Client: Clean Soil, Inc.Address: 7101 Western Ave., Buena Park, CA 90620Report Author: Jazmin Phone: 7606176438 Fax:  Sampled by: Blaine/CSIProject Name/No.: Angeles Project Site: 8915 Sorenson Ave., Santa Fe Springs

Client Sample ID	Lab Sample ID	Sample Collect:		Matrix Type	Sample Preserve	No., type & size of container	Analyses Requested						T.A.T. Requested			
		Date	Time				602/8021 (BTEX, MTBE)									
							8015M (Gasoline)	8015M (Diesel)	8260B (VOCs)	8260B (Oxygenates, BTEX)	8260B (MTBE Confirm.)	8270 (Aromatic Sulfur)	DOC, TDC, TDS	Chloride, Surface Soil, Depth, Alt. Street, Sediment, Total PCBs	Heavy metals, Total PCBs	Sample Condition
TB-1	BL523064-18	3-11-05	0700	Water		2V			X							
MW-20	-11	▼	0950	HCl		3V, 2G 3P		X	X			X	X	X	X	X
MW-24	-14		1009	NONE		2V		X	X							
MW-15	-8		1025	HCl		3V, 2G 3P		X	X							
MW-17	-10		1040	HCl		3V, 2G 3P		X	X			X	X	X	X	X
MW-25	-15		1117	NONE		2V		X	X							
MW-13	-6		1140	HCl		3V, 2G 3P		X	X			X	X	X	X	X
MW-12	-5		1150	HCl		3V, 2G 3P		X	X			X	X	X	X	X
MW-23	-13		1154	NONE		2V		X	X							
MW-14	-7		1230	HCl		3V, 2G 3P		X	X			X	X	X	X	X
MW-16	-9		1330	HCl		3V, 2G 3P		X	X			X	X	X	X	X
MW-1	-1		1340	HCl		2V			X							
EB-1	-17		1405	HCl		2V			X							
MW-22	-12		1430	HCl		3V, 2G 3P		X	X			X	X	X	X	X
MW-29	-3		1450	HCl		3V, 2G 3P		X	X			X	X	X	X	X
MW-26	-16	▼	1500	HCl		3V, 2G 3P		X	X			X	X	X	X	X
Re派ished by: <u>Wendy Brown</u>	Company: <u>CSI</u>	Date: <u>3-11-05</u>	Time: <u>1630</u>	Received by: <u>LJG/CJL</u>	Company: <u>CSI</u>	Container types: M=Metal Tube										
Re派ished by: <u></u>	Company: <u></u>	Date: <u></u>	Time: <u></u>	Received by: <u></u>	Company: <u></u>	A=Air Bag P=Plastic bottle										
						G=Glass bottle V=VOA vial										

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.  
 Distribution: WHITE with report, PINK to courier.

SOUTHLAND TECHNICAL SERVICES, INC.

**CHAIN OF CUSTODY RECORD**

**Lab Job Number**

BY Ondrej

**Southland Tech. Services, Inc.**  
7801 Telegraph Road, Suite L & K  
Montebello, CA 90640

**Tel:** (323) 888-0728  
**Fax:** (323) 888-1509

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.  
Distribution: WHITE with report, PJNK to courier.

## SOUTHLAND TECHNICAL SERVICES, INC.

## CHAIN OF CUSTODY RECORD

Client: Southland Technical Services, INC.  
 Address: 7201 Telegraph Rd STE #2, Montebello, CA 90640  
 Report Address: 7201 Telegraph Rd, Ste 200, Montebello, CA 90640  
 Project Name: Project 100

Client Sample ID	Lab Sample ID	Sample Collect			Matrix	Sample Type	Preserve	No. type & size of container	Analyses Requested	Lab Job Number	T.A.T. Requested										
		Date	Time	Comments																	
BL5-3064-2	-3	3/11/85	14:00		IP					M.W.-8											
	-4		A							M.W.-9											
	-5		B							M.W.-11											
	-6		C							M.W.-12											
	-7		D							M.W.-13											
	-8		E							M.W.-14											
	-9		F							M.W.-15											
	-10		G							M.W.-16											
	-11		H							M.W.-17											
	-12		I							M.W.-18											
	-16		J							M.W.-19											
ANCHEM0889																					
Received by		Company		Received by		Company		Container		Container type:											
<u>Southland Tech Services, Inc.</u>		<u>3/11/85</u>		<u>Power</u>		<u>American Asphalt</u>		M=Metal Tube		M=Metal Tube											
								P=Plastic bottle		P=Plastic bottle											
								G=Glass bottle		G=Glass bottle											
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Returns will be returned to client or disposed of at client's expense.																					
Distribution: WHITE with report, PINK to carrier.																					

Southland Tech Services, Inc.  
 7201 Telegraph Road, Suite 2, B-1  
 Montebello, CA 90640

Phone: (323) 888-1509  
 Fax: (323) 888-1509

Page 1 of 1



**AmeriChem  
Testing  
Laboratory**

1761 N. Batavia St.  
Orange, CA 92865

(714) 921-1550  
FAX: (714) 921-4770

# **Analytical Report**

**REPORT NUMBER: AL-6595-2**

**CLIENT:**

STS Environmental Lab.  
7801 Telegraph Rd. suite J  
Montebello, CA 90640

**REPORT ON:**

Water sample  
BL 503064-10-11-12-16

**DATE RECEIVED: 03/15/05**

**DATE REPORTED: 03/16/05**

**ANALYSIS :Chloride , DET.LIMIT: 0.1, METHOD: EPA325.3**

**ANALYSIS :Sulfide , DET.LIMIT: 0.05, METHOD: EPA376.1**

**ANALYSIS :Carbonate, DET.LIMIT: 2.0, METHOD: Standard Metho**

**ANALYSIS :Bicarbonate DET.LIMIT: 2.0, METHOD: Standard Metho**

**ANALYSIS :Total Alkalinity, DET.LIMIT: 1.0 , METHOD: 310.1**

ANALYSIS	TEST RESULT, mg/l			
	-10	-11	-12	-16
Chloride	125	87.1	65.3	310
Sulfide	ND	ND	ND	0.72
Alkalinity	433	353	525	615
Carbonate	ND	ND	ND	ND
Bicarbonate	264	215	320	372

Peter T. Wu  
Lab Director



AmeriChem  
Testing  
Laboratory

1761 N. Batavia St.  
Orange, CA 92863

(714) 921-1550  
FAX: (714) 921-4770

# Analytical Report

REPORT NUMBER: AL-6595-1

CLIENT:

STS Environmental Lab.  
7801 Telegraph Rd. suite J  
Montebello, CA 90640

REPORT ON:

Water sample  
BL 503064-2-3-4-5-6-7-8-9

DATE RECEIVED: 03/15/05

DATE REPORTED: 03/16/05

ANALYSIS :Chloride , DET.LIMIT: 0.1, METHOD: EPA325.3

ANALYSIS :Sulfide , DET.LIMIT: 0.05, METHOD: EPA376.1

ANALYSIS :Carbonate, DET.LIMIT: 2.0, METHOD: Standard Metho

ANALYSIS :Bicarbonate DET.LIMIT: 2.0, METHOD: Standard Metho

ANALYSIS :Total Alkalinity, DET.LIMIT: 1.0 , METHOD: 310.1

ANALYSIS	TEST RESULT, mg/l							
	-2	-3	-4	-5	-6	-7	-8	-9
Chloride	117	253	384	54.5	92.6	123	169	259
Sulfide	1.12	ND	0.96	ND	ND	ND	0.48	0.64
Alkalinity	638	568	885	385	365	395	520	668
Carbonate	ND	ND	ND	ND	ND	ND	ND	ND
Bicarbonate	389	346	540	235	223	241	317	407

Peter T. Wu  
Lab Director



**ASSOCIATED LABORATORIES**  
**306 North Batavia - Orange, California 92868 - 714/771-6900**

**FAX 714/538-1209**

**CLIENT** Southland Technical Services (6304)  
 ATTN: Roger Wang  
 7801 Telegraph Rd. - Suite L  
 Montebello, CA 90640

**LAB REQUEST** 146985  
**REPORTED** 03/22/2005  
**RECEIVED** 03/15/2005

**SUBMITTER** Client

**COMMENTS**

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

<u>Order No.</u>	<u>Client Sample Identification</u>
604276	BL503064-2
604277	BL503064-3
604278	BL503064-4
604279	BL503064-5
604280	BL503064-6
604281	BL503064-7
604282	BL503064-8
604283	BL503064-9
604284	BL503064-10
604285	BL503064-11
604286	BL503064-12
604287	BL503064-16
604288	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by,

Edward S. Behare, Ph.D.  
 Vice President

ANCHEM0892

**NOTE:** Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

The reports of the Associated Laboratories are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves.

**TESTING & CONSULTING**  
 Chemical  
 Microbiological  
 Environmental

Order #: 604276 Client Sample ID: BL503064-2  
 Matrix: WATER  
 Date Sampled: 03/11/2005

Analyte		Result	DLR	Units	Date/Analyst
<b>9060 Total Organic Carbon (TOC)</b>					
Dissolved Organic Carbon		23	1.0	mg/L	03/16/05 QP
Total Organic Carbon		26	1.0	mg/L	03/16/05 QP

Order #: 604277 Client Sample ID: BL503064-3  
 Matrix: WATER  
 Date Sampled: 03/11/2005

Analyte		Result	DLR	Units	Date/Analyst
<b>9060 Total Organic Carbon (TOC)</b>					
Dissolved Organic Carbon		15	1.0	mg/L	03/16/05 QP
Total Organic Carbon		16	1.0	mg/L	03/16/05 QP

Order #: 604278 Client Sample ID: BL503064-4  
 Matrix: WATER  
 Date Sampled: 03/11/2005

Analyte		Result	DLR	Units	Date/Analyst
<b>9060 Total Organic Carbon (TOC)</b>					
Dissolved Organic Carbon		545	12.5	mg/L	03/16/05 QP
Total Organic Carbon		595	12.5	mg/L	03/16/05 QP

ANCHEM0893

DLR = Detection limit for reporting purposes. ND = Not Detected below indicated detection limit

**ASSOCIATED LABORATORIES**

Analytical Results Database

FRCM-Accredited Laboratory 168 T-653 P-002/008 E-446

MI-25-2006 08:14



Order #: 604279

Client Sample ID: BL503064-5

Matrix: WATER

Date Sampled: 03/11/2005

Analyte	Result	DLR	Units	Date/Analyst
---------	--------	-----	-------	--------------

**9060 Total Organic Carbon (TOC)**

Dissolved Organic Carbon	2.2	1.0	mg/L	03/16/05	DP
Total Organic Carbon	2.3	1.0	mg/L	03/16/05	DP

Order #: 604280

Client Sample ID: BL503064-6

Matrix: WATER

Date Sampled: 03/11/2005

Analyte	Result	DLR	Units	Date/Analyst
---------	--------	-----	-------	--------------

**9060 Total Organic Carbon (TOC)**

Dissolved Organic Carbon	1.7	1.0	mg/L	03/16/05	QP
Total Organic Carbon	1.7	1.0	mg/L	03/16/05	QP

Order #: 604281

Client Sample ID: BL503064-7

Matrix: WATER

Date Sampled: 03/11/2005

Analyte	Result	DLR	Units	Date/Analyst
---------	--------	-----	-------	--------------

**9060 Total Organic Carbon (TOC)**

Dissolved Organic Carbon	2.1	1.0	mg/L	03/16/05	QP
Total Organic Carbon	2.3	1.0	mg/L	03/16/05	QP

ANCHEM0894

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit

**ASSOCIATED LABORATORIES**

Analytical Results Report

FORM-ASSOCIATED LABORATORIES

T-653 114-598-1200

P.003/000 F-446

MAI-25-2005 08:15

Order #: 604282

Client Sample ID: BL503064-8

Matrix: WATER

Date Sampled: 03/11/2005

Analyte	Result	DLR	Units	Date/Analyst
<b>9060 Total Organic Carbon (TOC)</b>				
Dissolved Organic Carbon	10	1.0	mg/L	03/16/05 QP
Total Organic Carbon	4.7	1.0	mg/L	03/16/05 QP

Order #: 604283

Client Sample ID: BL503064-9

Matrix: WATER

Date Sampled: 03/11/2005

Analyte	Result	DLR	Units	Date/Analyst
<b>9060 Total Organic Carbon (TOC)</b>				
Dissolved Organic Carbon	18	1.0	mg/L	03/16/05 QP
Total Organic Carbon	19	1.0	mg/L	03/16/05 QP

Order #: 604284

Client Sample ID: BL503064-10

Matrix: WATER

Date Sampled: 03/11/2005

Analyte	Result	DLR	Units	Date/Analyst
<b>9060 Total Organic Carbon (TOC)</b>				
Dissolved Organic Carbon	2.0	1.0	mg/L	03/16/05 QP
Total Organic Carbon	2.3	1.0	mg/L	03/16/05 QP

ANCHEM0895

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit

**ASSOCIATED LABORATORIES**

Analytical Results Report

NW-25-2005 09:15  
669-1

FORM-A5805-A5806 Laboratory Log

714-588-1200 P.004/008 F-446

NW-25-2005 09:15



Order #: 604285  
 Matrix: WATER  
 Date Sampled: 03/11/2005

Client Sample ID: BL503064-11

Analyte	Result	DLR	Units	Date/Analyst
<b>9060 Total Organic Carbon (TOC)</b>				
Dissolved Organic Carbon	2.8	1.0	mg/L	03/16/05 QP
Total Organic Carbon	3.4	1.0	mg/L	03/16/05 QP

Order #: 604285  
 Matrix: WATER  
 Date Sampled: 03/11/2005

Client Sample ID: BL503064-12

Analyte	Result	DLR	Units	Date/Analyst
<b>9060 Total Organic Carbon (TOC)</b>				
Dissolved Organic Carbon	9.4	1.0	mg/L	03/16/05 QP
Total Organic Carbon	11	1.0	mg/L	03/16/05 QP

Order #: 604287  
 Matrix: WATER  
 Date Sampled: 03/11/2005

Client Sample ID: BL503064-16

Analyte	Result	DLR	Units	Date/Analyst
<b>9060 Total Organic Carbon (TOC)</b>				
Dissolved Organic Carbon	78	5.0	mg/L	03/16/05 QP
Total Organic Carbon	84	5.0	mg/L	03/16/05 QP

ANCHEM0896

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit

**ASSOCIATED LABORATORIES**

Analytical Results Report

Firm-Associated Laboratories 714-638-1200 T-859 P.006/006 F-446

MA-22-2005 08:15



Order #: 604288

Client Sample ID: Laboratory Method Blank

Matrix: WATER

Analyte	Result	DLR	Units	Date/Analyst
<b>9060 Total Organic Carbon (TOC)</b>				
Dissolved Organic Carbon	ND	0.5	mg/L	03/16/05 QP
Total Organic Carbon	ND	0.5	mg/L	03/16/05 QP

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit

**ASSOCIATED LABORATORIES**

Analytical Results Report

FORM-Assoc'lated Laboratories

1-859 714-598-1208

P.008/008 F-446

MAR-25-2005 08:16



**ASSOCIATED LABORATORIES  
QA REPORT FORM**

QC Sample: 146985-5

Matrix: WATER

Prep. Date: March 16, 2005

Analysis Date: March 16, 2005

ID#s in Batch: LR 146985

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT**

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1 / 9060	1.7	10	11.9	12.2	102	105	2

*ND = "U" - Not Detected**RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate**%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate***%REC LIMITS = 80 - 120****RPD LIMITS = 20**

**PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS**

PREP BLK / LCS		Value	Result	True	%Rec	L.Limit	H.Limit
Value	Result						
ND	10	10	10	100	100	80%	120%

*Value = Preparation Blank Value; ND = Not-Detected**LCS Result = Lab Control Sample Result**True = True Value of LCS**L.Limit / H.Limit = LCS Control Limits*

ANACHEM0898

3/22/2005

415.1 TOC 03/16 W/T



## ASSOCIATED LABORATORIES

806 N. Batavia • Orange, CA 92866  
(714) 771-8900 • Fax: (714) 538-1209

T-653 P.008/008 F-446

146985

## CHAIN OF CUSTODY RECORD

Date 3-15-05 Page 1 of 1

From: Roger Wang To: Mr. Kennedy

Date: 3/25/2005 Time: 12:59:06 PM

Page 9 of 9

CLIENT: Southland Technical Services  
ADDRESS: 7801 Telegraph Rd STE #L  
Montebello CA 90640

INC.

PROJECT MANAGER

PHONE NUMBER

SAMPLERS: (Signature)

Lab Use Only: Samples Intact Yes  No County Seal Intact Yes  No Sample Ambient  Cooled  Frozen Same Day  24 Hr. Regular  48 Hr. 

SAMPLE NUMBER	LOCATION DESCRIPTION	DATE	TIME	SAMPLE TYPE			NO OF GNTNS	SUSP. CONTAM.	TESTS REQUIRED
				WATER	AIR	SOLID			
BL503064-2	MW-8 STS	3/11/05	"	"	"	"	1	2P	TOC+ Dissol. Org Carbon
" -3	MW-9 "	"	"	"	"	"	2	"	
" -4	MW-11 "	"	"	"	"	"	2	"	
" -5	MW-12 "	"	"	"	"	"	2	"	
" -6	MW-13 "	"	"	"	"	"	2	"	
" -7	MW-14 "	"	"	"	"	"	2	"	
" -8	MW-15 "	"	"	"	"	"	2	"	
" -9	MW-16 "	"	"	"	"	"	2	"	
" -10	MW-17 "	"	"	"	"	"	2	"	
" -11	MW-20 "	"	"	"	"	"	2	"	
" -12	MW-22 "	"	"	"	"	"	2	"	
" -16	MW-26 "	"	"	"	"	"	2	"	

Relinquished by: (Signature)

Guorui LIAO

Relinquished by: (Signature)

Special Instructions:

ANCHOR#899

Received by: (Signature)

Matthew Blum

Received by Laboratory for analysis:  
(Signature)

Date/Time

Date/Time

I hereby authorize the performance of the above indicated work.

DISTRIBUTION: White with report, Yellow to AL,  
Pink to Courier

2/16/05 8:20